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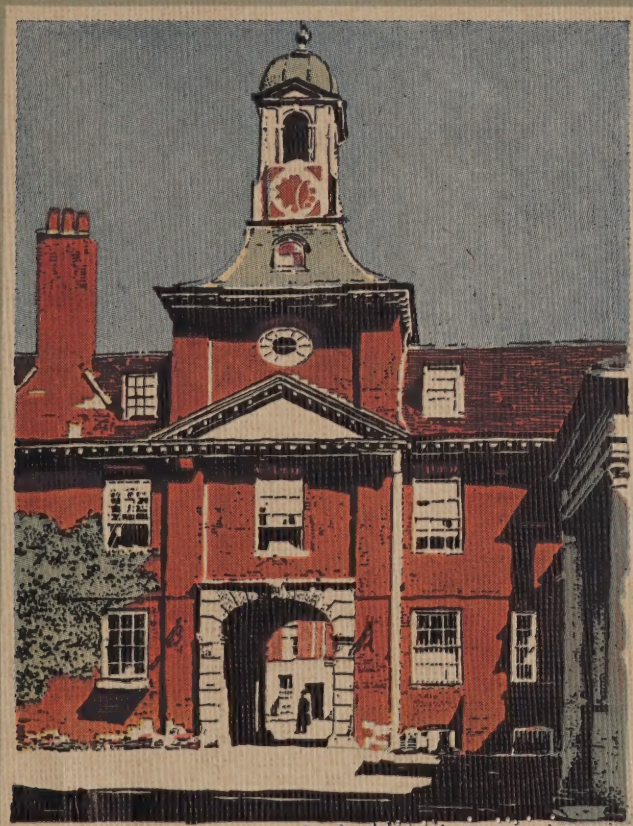
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# THE ARCHITECTURAL FORUM



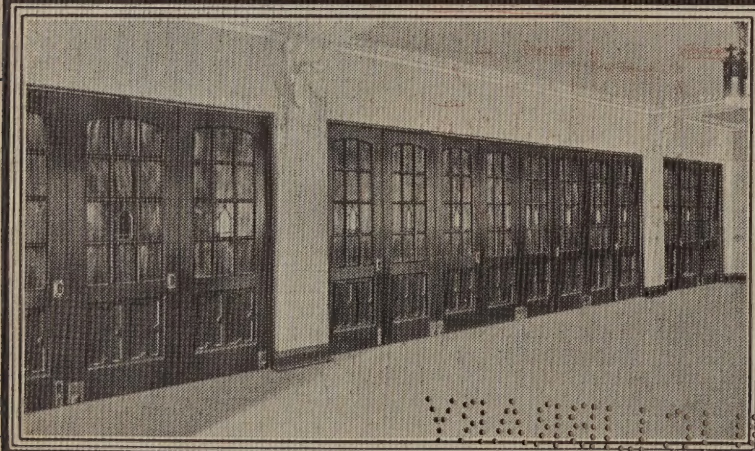
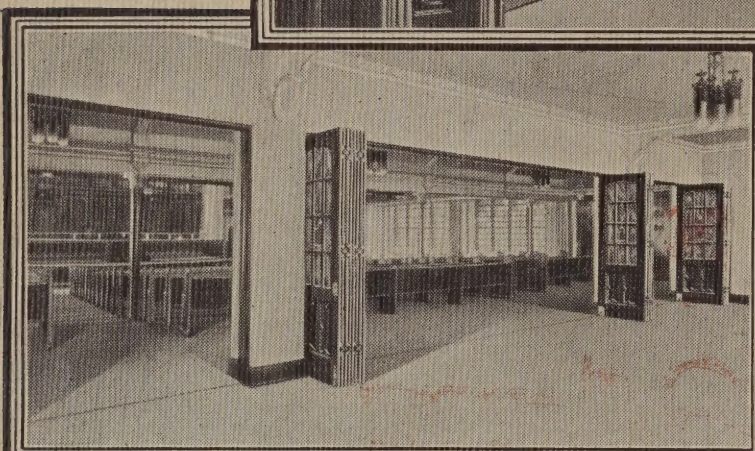
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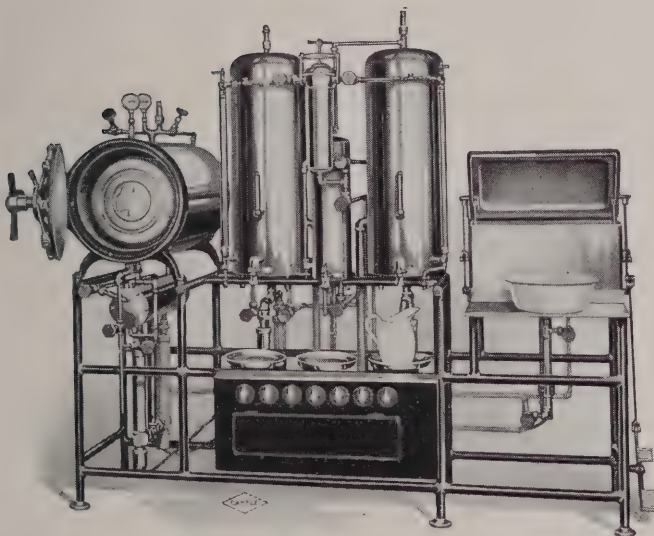
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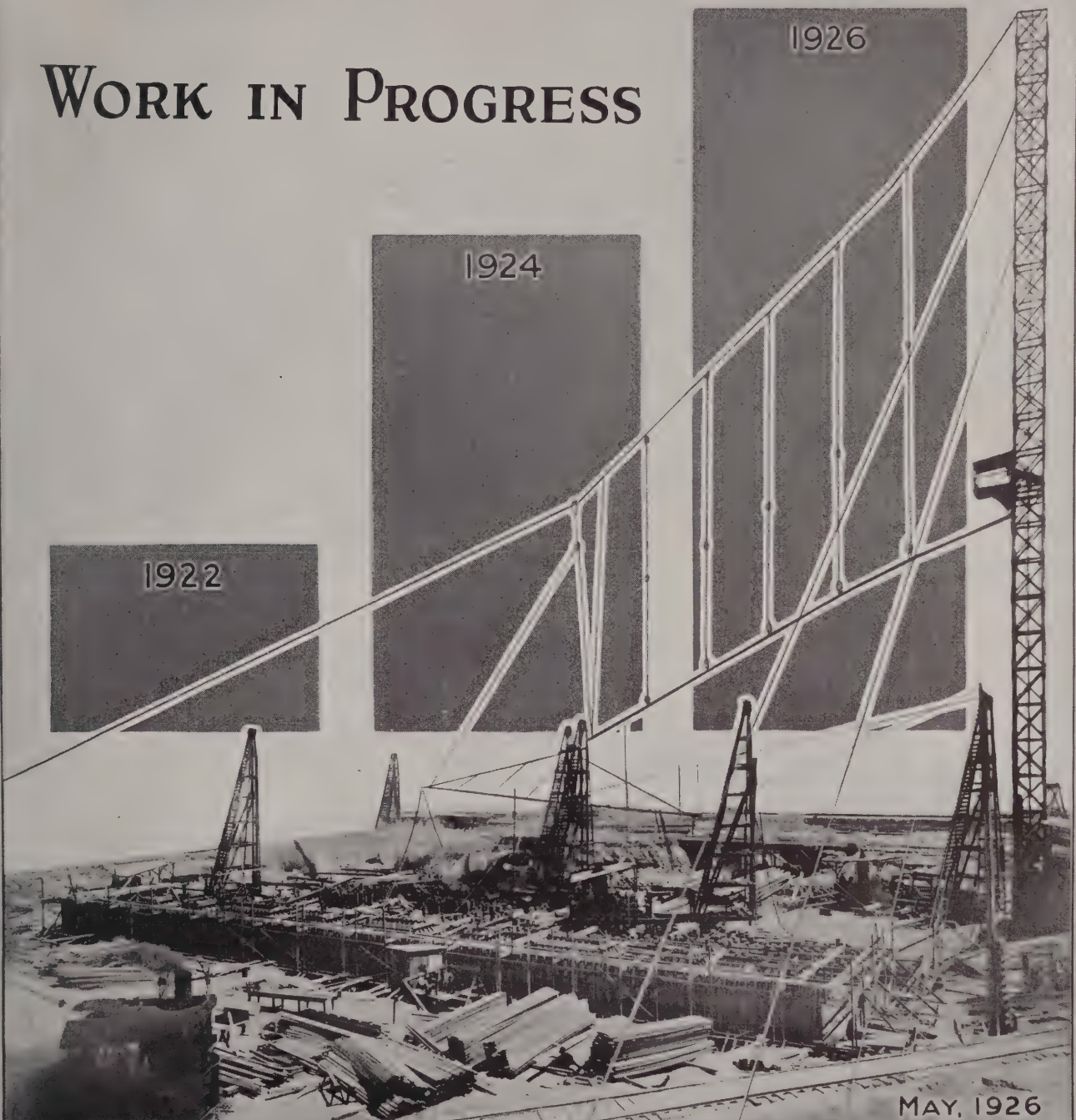
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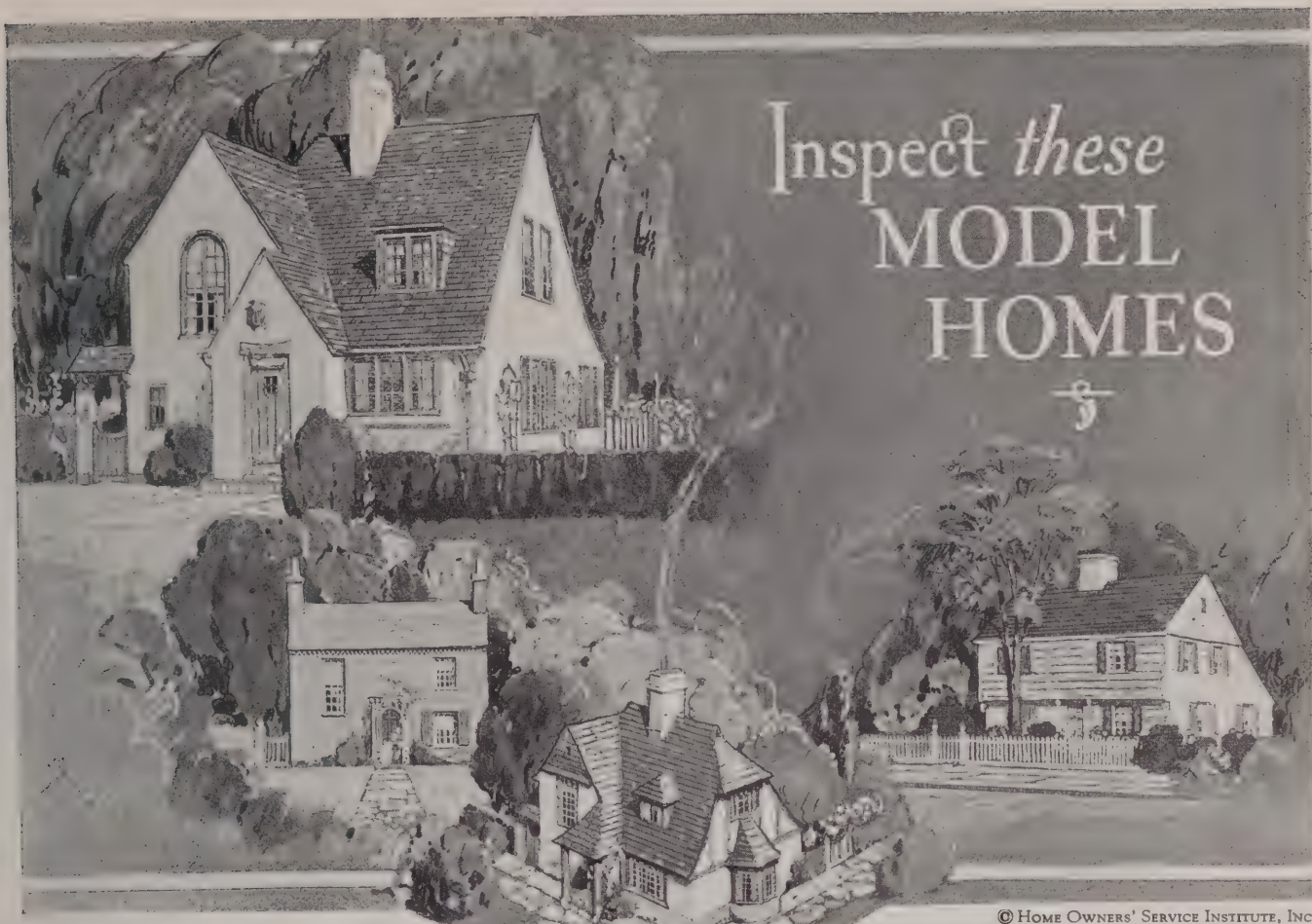
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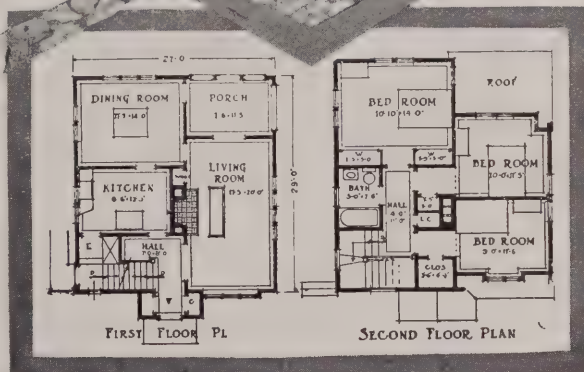




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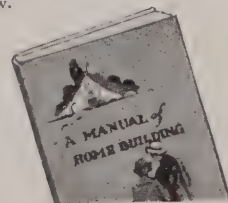
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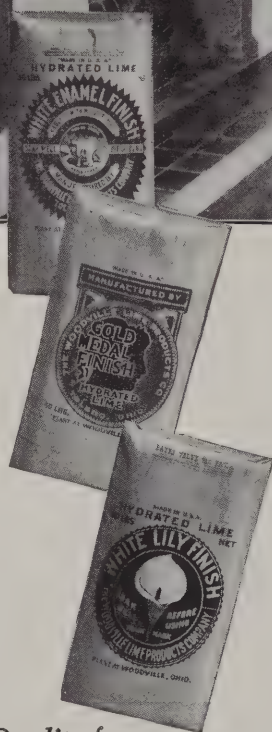
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# BOOK DEPARTMENT

## An Architect of Eighteenth Century France

A Review by WALTER F. WHEELER

TO some few architects it is given to express in their work and consequently by their very names the architectural spirit of an entire age. Thus the mere name of Palladio suggests the type of design which resulted from Italy's study of the antique, and that of Wren the version of the Renaissance which prevailed in England for more than a century,—a type, indeed, which to some extent prevails with but little change today. The name, likewise, of Ange Jacques Gabriel is identified with France of the period of Louis XV. Born during the reign of Louis XIV and living until that of Louis XVI, he may be said to have presided over the architectural destinies of France during a highly important and active epoch. The strong centralizing of French government in the person of the king made possible ample funds for the erection of buildings on a vast scale, while the splendid drama of life at the French court called for structures of appropriate size and suitable splendor,—and in supplying both Gabriel was not wanting.

The work of Gabriel as *Premier Architecte de Louis XV* might be divided into at least four classes:—(1) what is practically "builder's architecture," exemplified by the Bourse at Bordeaux; (2) a highly ornamental and decorative variety, many examples of which are to be seen at Versailles; (3) a beautifully proportioned type of architecture characterized by detail of the utmost refinement, such as is seen at *L'Ecole Militaire* and at Compeigne; (4) a phase which seems to foreshadow the Empire, exemplified by his later work at the Petit Trianon, possessing the balance and proportions which render much Empire design so beautiful while avoiding the heaviness which so often seems to become mere clumsiness. Possibly it is because of the restraint and reticence of so much of his work that Gabriel's name is frequently associated with the reign of Louis XVI. He avoided the fantastic and highly ornate Rococo so widely in vogue during the reign of the fifteenth Louis, and so dexterously managed his compositions that he satisfied the florid and luxurious taste of his day while really working in a style which resembled the subdued and refined type which was to follow a little later on.

Gabriel was particularly fortunate in his treatment

of the graceful and somewhat playful buildings which the French call *ermitages*,—"dwellings in the country." Even more so perhaps than with his major work he is identified with the Petit Trianon, the altogether charming little abode not far from Versailles. Originally ordered by Louis XV for Mme. de Pompadour (who died before it was completed), the king presented it to

Mme. Du Barry, his next official mistress. The Petit Trianon, however, is particularly identified with the career of Marie Antoinette. Here she played at what was the royal idea of the simple life, laid out a toy farm and affected the life of a milk-maid. Essentially a residence for women, the Petit Trianon is beautiful with a beauty and charm wholly feminine. Notwithstanding this, however, it has been "adapted" or made to form the basis of design for many buildings in America, perhaps because its setting for



Garden Stairway; Le Petit Trianon  
Illustration from "Masters of Architecture";  
Ange Jacques Gabriel

what was then regarded as informal life supplies what a more democratic and less discriminating age now regards as a setting for life quite ceremonious!

Had Gabriel worked in America during the nineteenth century instead of in France during the eighteenth, little of his work would be in existence today. Excepting for some of the work of Bulfinch and McIntyre, in and about Boston, how many of the masterpieces of earlier American periods have endured? But France moves more slowly, and of the structures built and adorned by Gabriel many are still standing,—no longer, to be sure, supplying the setting for the gorgeous life of a luxurious monarch and his court, and many serving now the somewhat gray and rather somber function of national museums,—relics of the glory which was France and which nearly every Frenchman secretly cherishes!

This volume is the latest addition to the series "Masters of Architecture," being published under the general editorship of Stanley G. Ramsey. Previous volumes have been devoted to reviewing the work of Vanbrugh, Inigo Jones, Soane, Hawksmoor, Bentley and McKim, Mead & White. The entire series is of course exceedingly carefully written and edited and is very well illustrated.

**MASTERS OF ARCHITECTURE; ANGE JACQUES GABRIEL.**  
By H. Bartle Cox. Text and 34 plates. 7¼ x 9¾ inches. Price \$2.50. Charles Scribner's Sons, 597 Fifth Avenue, New York.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM



**HOUSE & GARDEN'S SECOND BOOK OF INTERIORS.** 700 illustrations; 223 pp., 9½ x 12¾ ins. Price \$5. The Conde Nast Publications, Inc., 19 West 44th Street, New York.

EVERY year sees a strengthening of the ties between architecture and interior decoration. Certain architects now maintain in their offices well equipped departments of decoration, or else they work in close coöperation with interior decorators, well realizing that unless they control the highly important work of decoration and furnishing, the architecture proper may suffer or else be completely spoiled. In this modern architects are merely following the example of architects of an earlier day. Who could imagine the Adam brothers or the great Kent, for example, or any other of the architects who wrought the masterpieces of English domestic architecture, resting content when plans had been drawn and ornament detailed, leaving the remainder of the work to any furnisher whom an owner might select? Instead, they supervised the minutiae of decoration, and thus their work achieved the excellence which after far more than a hundred years renders it an example to be followed.

Into this volume, one of the well known *House & Garden* series, there have been collected some of the best matter which has appeared in that publication during the past year or two. It matters little that most of the work is credited to interior decorators, for in many instances it has been directed by architects, even though actually executed by decorators; then too, some decorators have so caught what may be called the "architectural sense" that (in so far as this part of the work is concerned) they have practically become parts of architects' organizations. But this particular volume covers a field rather broader than its title would suggest, since in addition to excellent illustrations of interiors architecturally planned and designed and appropriately arranged there are given data or suggestions on quite a number of important subjects,—the use of color combinations and combinations of furniture types for rooms of varying sizes, for different purposes and with different exposures; suggestions for the treatment of floors, walls and ceilings; hints on the use of accessories of different sorts, and a study of furniture.

**LAW FOR THE HOME OWNER.** By J. B. Green, 404 pp., 5 x 7½ ins. Price \$2.50. The Macmillan Company, New York.

THE prospective owner of a home frequently permits his interest in acquiring property and his enthusiasm in building to prevent giving what should be his attention to various legal aspects of the undertaking, aspects which unless looked to may cause disaster later on. "The prospective home owner, before he makes a single contract or invests a single dollar, should inform himself concerning the principles of law that vitally affect the acquirement and enjoyment of a home. He needs this information in order to get a good title to his land, a well built dwelling, proper public service and rights and privileges in abutting streets, as well as to maintain pleasant relations with his neighbors, and to know and discharge his duties with his neighbors, and to know and discharge his duties as a citizen and owner."

In this volume John B. Green of the New York Bar, author of "Law for the American Farmer" brings the importance of the matter to the attention of the home owner in the most thorough and helpful way. The vol-

ume may well, in fact, engage the attention of the architect as well, for since the owner looks to his architect for guidance in almost everything which has to do with building, there are countless ways in which the architect can serve his client by pointing out the mistakes which the client might make in connection with his project.

**PERSPECTIVE; AN ELEMENTARY TEXT BOOK.** By Ben J. Lubschez. Fourth Edition, 130 pp., 4¾ x 7¼ inches. Price \$2 Net. D. Van Nostrand Company, New York.

THE importance in an architect's office of well drawn perspectives is likely to require considerable proficiency in drawing upon the part of some member of the staff. Such proficiency is the result of experience in the work as well as of excellent instruction, but the well instructed and experienced draftsman as well as the draftsman who must be self taught and who must acquire his knowledge from books rather than from instructors will learn much from this work by Mr. Lubschez which now appears in the fourth edition. The chapter headings themselves indicate the broad scope of the volume. Some of these headings are: Vanishing Points and the Point of Station; Parallel or One-Point Perspective; Oblique and Inclined Lines and Planes; A Table of Conjugate Vanishing Points; The Perspective of Shadows by Sunlight,—By Artificial Light, etc.

The usefulness of the author's earlier work, "Over the Drawing Board," as well as that of the previous editions of the present work should secure a wide sale for this new edition in which the subject matter has been revised, enlarged and completely rearranged and well indexed.

**BERMUDA HOUSES.** By John S. Humphreys. Text and 181 Plates. 9¼ x 12¼ ins. Price \$15. Marshall Jones Company, Boston.

TO the visitor to Bermuda who expects to find in the islands a reproduction in miniature of any part of the United States, there is to come the most delightful of surprises. Instead of being possessed of a hideous water front, comparable perhaps to that of Hoboken or Camden, Hamilton, the principal town of the islands, possesses much of the beauty and interest of a stage setting, and reminds one of some of the old coast towns of Italy—Amalfi, possibly—with its low, spreading houses of white coral rock spread around the shores of a small bay, the entire region dominated by a church built upon a hill and visible for miles out at sea, its square tower rising above the crossing of nave and transepts.

The architecture of Bermuda, with which this book deals, suggests more than a little that of Charleston, Savannah or those parts of Louisiana where English architectural tradition was powerful during formative years. The buildings are in no sense "Latin," though they possess the large expanses of roof and wall surfaces, much of the picturesque disposition of roofing; and the use of enclosing walls about yards or courtyards which figure so strongly in the architecture of Spain, Italy, or southern France; and Nature throws around everything a luxuriant vegetation which goes far toward clothing the islands with a garb of beauty and romance. It is a land where, as someone has said, it is "always afternoon," and the simple charm of the Bermudian buildings supplies a great part of the appeal which draws the visitor back for still another glimpse of its loveliness.



**THE ADVENTURES OF AN ILLUSTRATOR.** By Joseph Pennell. 372 pp., 8½ x 11¼ in. \$12.50. Little, Brown & Co., Boston.

THE first part of this autobiographical volume sets forth the story of Pennell's shy, sensitive and often misunderstood childhood in Philadelphia. Though born a Friend and raised in the well ordered and restrained atmosphere of that Society, by nature and temperament he was in chronic rebellion against the repression of Quakerism. Drawing, painting, engraving, any form of art in fact, might be well enough for "world's people," but received only frowns and disapproval from the staid folk of plain language and plain clothes. Pennell's early endeavors and inclinations brought only sneers or pitying contempt from most of those by whom he was surrounded. His father alone seems to have sympathized with and encouraged his aspirations. In his own mind, however, there was never any question, from the very first, as to what he wished to do. He was born to be an illustrator, and an illustrator he would become despite all obstacles. Every discouragement he met with merely strengthened his determination to succeed.

His literary style is a trifle difficult and disjointed here and there, but it has the great merit of being direct, terse and vivid. It is full of movement, and the chapters are written in exactly the way Mr. Pennell himself talked when in a communicative mood. Furthermore, the things and people he reminisces about are pleasant and delightful, and the pages are often enlivened with allusions to youthful pranks as poultry raiser and peanut grower. But, above all, there is the determination to win out and realize his ambitions. Working hard and continuously was part of his plan. All through his rise to success he clearly shows how strongly one must care, believe and work in order to succeed. Incidentally, he mentions the reason for his mannerism of drawing most things as though they were below the level of his eyes; it began by his drawing, as a very small boy, from the office windows of the Copes' shipping warehouse on the waterfront, whither he often accompanied his father.

The second part of the book is less interesting and pleasant. It is largely given over to a catalog of his early commissions, criticisms of his artist and near-artist friends, and his bitter resentment of the passing of the old order of things and the coming of modern customs, modern architecture and modern restlessness, apparently forgetting that it is this new order which gave him his high place and recognition. He shows himself quicker to condemn the efforts of others than to praise them. From the very beginning, he is irritatingly sure of himself and of his ways being always the best of all ways.

The third and last parts of the volume are intensely interesting. His style becomes more animated and enthusiastic, and he tells of his wanderings through Europe. His experiences there were varied and often amusing, for moving slowly and determinedly along the streets and roads he missed little of the sights and sounds in quaint villages or old cities. By quietly living the life of each place he was able to take into himself the true atmosphere of it all, to be given out later in his work. He was drawing all the time. It was the only thing he really cared for. Music, drama, literature, had no place

in his life. The evenings he usually spent with other artists who talked gaily and often brilliantly of their work and their hopes. He shows supreme contempt for the would-be artist who fritters time away, seeking to gain through money or talk the place that belongs to the worker. He did not believe in "temperament" or inspiration—work, hard work, was his god. His own strong position in the world of art proved him right. The men who thought as he thought, or worked as he worked, usually became his friends; the others he seemed to enjoy making his enemies, for he never hesitated to sneer at them and their ideals. His intolerance is amazing.

He knew most of the well known artists and writers, whose names make a long catalog. Of his great admiration for Beardsley he tells us, and of his still greater admiration for Whistler, but of these men, as well as of many others, he reveals less than one might reasonably expect, because he is most interested in their relations to himself.

Sprinkled here and there through the whole book is advice to young artists, advice they would do well to heed if they are sincere. There is a generous collection of his own drawings, and they add greatly to the value of the book. Anyone who is capable of feeling truth and beauty, even though he knows nothing of technique or of the fame of Joseph Pennell, will be impressed by his illustrations. They are so full of the spirit of each place he pictures that one feels as though one too had been there. His later drawings, while less simple than those of earlier years, are just as sincere but broader in conception. None of his work is "common," and he shows us the beauty and majesty of factories and other familiar work-a-day things which most of us are likely to pass by as ugly. We lack the seeing eye, perhaps, and spend most of our lives hurrying—which Pennell, as a matter of course, never did.

**A WAYFARER IN UNKNOWN TUSCANY.** By Edward Hutton, with Notes by William Heywood. 212 pp., 4¾ x 7½ inches. Price \$3. E. P. Dutton & Co., New York.

TRAVELERS in quest of architectural inspiration when in Europe are likely to frequent only the widely known places, places so thoroughly exploited and tourist-ridden that they have long ago lost just the qualities of which the architect is in search. And yet in many countries, particularly in Italy, and notably in northern Italy, far removed from railways and off the well beaten motor roads, there exist the most charming old villages and small towns, primitive still, and each built around its old church, convent or monastery which still treasures its old paintings, marbles or terra cottas in spite of the cupidity and wiles of the ubiquitous American antique dealers.

In this volume, the most recent of quite a number of "travel books," Mr. Hutton takes the reader into unknown and still primeval Tuscany. Gifted with a keen appreciation of the architectural, and in complete sympathy with this smiling land and its people, it is not difficult for him to make a most charming volume where in less skilled hands the result would be something quite different. Excellent illustrations from original photographs heighten the interest of this volume, and the notes by Mr. Heywood,—notes historical, archæological and geographical,—aid the traveler, explorer and student.



**MAJORCA; By Henry C. Shelley.** 275 pp., 5½ x 8½ ins. Price \$3.50 Net. Little, Brown & Co., Boston.

**P**ERHAPS it is because of the rare interest which invests the surrounding shores—Spain, Italy and northern Africa—that the world so largely forgets the Balearic Isles, near the western end of the Mediterranean Sea. Even their names are almost unknown, possibly because one so rarely sees a map of sufficiently large scale to contain the names individually of these tiny dots upon the Sea's expanse, and when one finds their names—Majorca and Minorca ("Greater" and "Lesser"?) and Cabrera—even the names come as a new discovery.

In this volume Mr. Shelley deals with the islands' rich historic and antiquarian interest and with their architecture, which shows the results of the mingling of the architectural traditions of several races. Time has dealt lightly with these magical islands, and war,—the other great destroyer,—has presumably passed them by, so that the accumulated treasures of the ancient, mediæval and modern worlds exist there in abundance for students.

**JOINTS AND HOW THEY ARE MADE. By William W. Klenke.** 69 pp., 5¼ x 7¾ ins. Price 85 cents. Manual Arts Press, Peoria, Ill.

**O**NE of the most important details of carpentry and woodworking is the matter of joints,—indeed the use of the work "joinery" as often applied to woodworking as a whole may be taken as an indication of the importance of the matter. This little volume, by an architect who is also an instructor in woodworking in a manual training school, is a valuable addition to the list of excellent works being issued by the Manual Arts Press.

**ENGLISH ROOMS AND THEIR DECORATION AT A GLANCE. By Charles H. Hayward, Author of "English Furniture at a Glance."** 289 pp., 5½ x 8½ inches. Price \$2.50. G. P. Putnam's Sons, New York.

**E**VOOLUTION of the English home from what it was during the Gothic period to what it became during the reigns of the four Georges may be viewed as an orderly sequence, one type following another, generally inspired if not definitely determined by influence from outside. This gradual change applied not only to structures themselves,—their plans, exteriors and interiors,—but likewise to their furnishings, which could readily make or mar the interiors in which they were used. Study of structure and furniture must obviously go hand in hand if the student is to gain an intelligent grasp upon either, and one of the respects in which Mr. Hayward's writings on these subjects excel is in presenting together the study of these two subjects so intimately related that neither could be advantageously studied without the other.

The types, simple as well as more elaborate, which prevailed in England during 800 years are here considered, their interior details, such as walls, floors, ceilings, doors, windows and chimneypieces, and such of the principal details of furniture as tables, chairs and cupboards as often reflect when they do not repeat the details of the interior architecture itself. Obviously, however, as the title of the book suggests, this volume deals chiefly with the interior architecture of a house, furniture being discussed only in so far as it relates to structure proper. The present work as well as Mr. Hayward's volume entitled "English Furniture at a Glance" is recommended to students as well as to architects and decorators.

## The Practical Book of Tapestry

*By George Leland Hunter*

**T**HE intimate connection between tapestry and architecture as well as the frequent use of architectural motifs in tapestry design gives to tapestry and its history an interest to architects which is strong. Primarily associated with the Gothic age, which saw what were perhaps the most brilliant of its triumphs, tapestry has been identified with the development of all of western Europe and with the different periods—the Renaissance, early and late; the Baroque age; the eras of the different Louis; and in later days with the

various places where looms have been set up and where present-day workers are engaged in creating by use of old-time methods those marvelous weaves which add to any surroundings where they are placed a richness of decoration which confers dignity and splendor to the place where they are used. No study is more absorbing than that of tapestry.



**I**N this volume is given a complete review of the subject of tapestry. The author has made a deep study of tapestry's history and is familiar with every important example in the world. The volume deals also with the technique of tapestry weaving, the changes and development of its design in different countries at different times, and it goes at length into descriptions of modern looms where this ancient art has been successfully revived. The illustrations, many in full color, add to the reader's interest. All are from pho-

tographs made especially for this work, and many show the student for the first time examples of tapestry weaving of the first importance. The volume is particularly valuable by reason of its accurate documentation and full bibliography and because of its giving the names of places where there are to be seen the most important tapestries now in existence.

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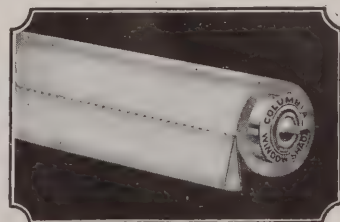
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# The ARCHITECTURAL FORUM

VOLUME XLV

NUMBER 1

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PARKER MORSE HOOPER, A.I.A., Editor

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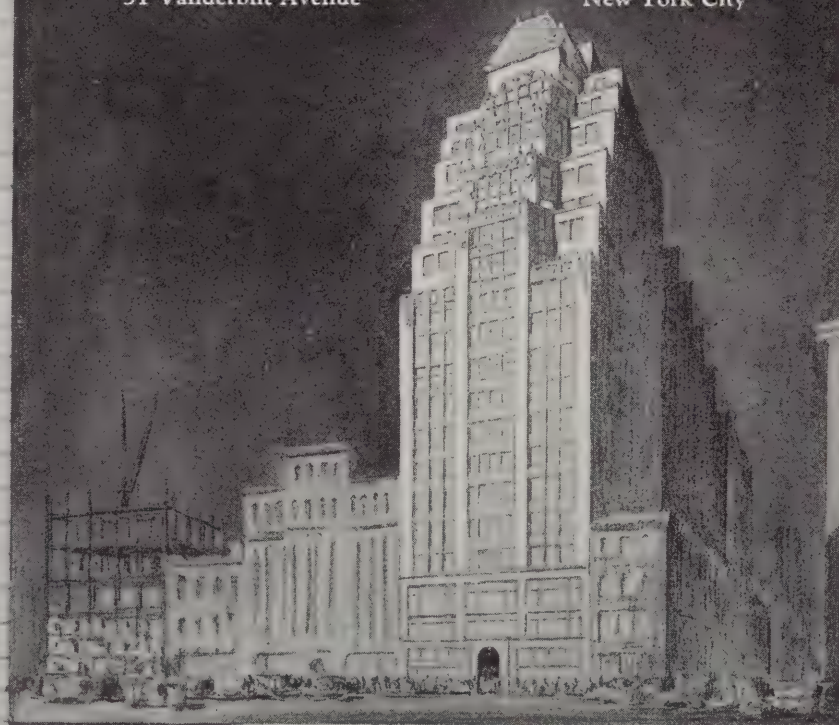


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# THE EDITOR'S FORUM

## A NEW SCHOOL OF ARCHITECTURE

THE organization of a new "Division of Architecture," differing in many ways from the typical architectural school, is announced by Charles H. Sherrill, Chairman of the Department of Fine Arts of New York University. Because of the adaptability of its organization, methods and schedule to the individual, the new program will fill a need long felt by the architectural profession. The policy of the school will be very similar to that of the *Ecole des Beaux Arts*, for two centuries the foremost school of architecture in the world. It will neither duplicate nor compete with existing schools, but will do useful work in providing complete training for those who cannot afford or do not care to spend five or six years at college. The new division will be particularly adapted to those who have to earn a part or the whole of their living.

Professor E. Raymond Bossange, for eight years Dean of the College of Fine Arts of Carnegie Institute of Technology, and now Director of the School of Architecture of Princeton University, has been called to take charge of this new Division of Architecture. Among others who are to serve on the Advisory Board are B. Wistar Morris, Kenneth M. Murchison, C. Grant LaFarge, Raymond M. Hood, Lansing C. Holden, Chester H. Aldrich, C. C. Zantinger and George C. Nimmons. Bulletins announcing the courses to be given will be issued shortly.

## THE GENNADEION LIBRARY

A NEW era in the modern study of classical antiquity was begun by the dedication at Athens on April 23, 1926, of the Gennadeion Library of the American School of Classical Studies. This library is the result of two generations of careful, scholarly collecting, without stinting of means, of all that pertains to Greek history, by George Gennadius, an eminent Greek patriot and scholar, and his son, Dr. Johannes Gennadius, an illustrious Hellenic diplomat and statesman of the present day, and is the gift of the latter, in memory of his father, to the American School of Classical Studies. The splendid building housing this collection of some 50,000 items was erected by the Carnegie Corporation. It is entirely of marble from the island of Naxos, cut and worked by hand. It occupies a commanding spot, high up on the slope of Mt. Lycabettus, overlooking the Acropolis and commanding a view of Phaleron Bay, where the shattered remnants of the fleet of Xerxes fled after its defeat at the battle of Salamis. It is an American institution under American administration, open to scholars of every nation on equal terms.

The American School of Classical Studies in

Athens was opened in the autumn of 1881. Its object is to furnish graduates of American universities and colleges and other qualified students an opportunity of studying classical literature, art and antiquities in Athens under suitable guidance; to prosecute and aid original research in these subjects; and to coöperate with the Archæological Institute of America, so far as it may be able, in conducting the exploration and investigation of various classical sites.

## ANOTHER ARCHITECTURAL EXPOSITION

ALREADY marked progress has been made upon plans for the Second Exposition of Architecture and the Allied Arts, which is to be held under the auspices of the Architectural League of New York from February 21 to March 5, 1927. It is expected that the Exposition, which will be held at the Grand Central Palace, will be the most extensive exhibition of architecture yet held in America, not even excepting the memorable Exposition of 1925.

## A PROPOSED SOLUTION FOR TRAFFIC CONGESTION

NEW YORK'S problem in street congestion, due to extraordinary traffic conditions and the ever-increasing construction of high buildings, was discussed recently at a meeting of the Architectural League of New York, according to the New York dailies. The chief speakers were Harvey W. Corbett, a Past President of the League and a member of the State Fine Arts Commission, and Thomas Adams, who is well known as the Director of the City Planning Committee of the Russell Sage Foundation.

Mr. Corbett, who is the author of the deck-street plan, discussed the development of the idea. He believed that ultimately triple street decks would be required for many thoroughfares. With the extension of the skyscraper and the impossibility of widening streets, he said, streets would have to be elevated to the levels of third-story windows. The suggestion was not approved by Mr. Adams, who said he could not conceive of people being satisfied to live or work in buildings deprived of light and air in three lower floors. His remedy consisted in planning the tall building with a view to providing space and light around it so that there could be free movement, regardless of the extra land required.

## THE JUNE FRONTISPIECE

THE frontispiece of the June FORUM showed a tentative design for the Yale Library from a work by John Russell Pope on the development of a plan for Yale. The library which is now being built is from designs and plans by James Gamble Rogers.





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# The ARCHITECTURAL FORUM

Volume XLV

JULY 1926

Number 1

## Old Houses of Tewkesbury

By CLINTON D. BLAKE, JR.

**A**BOUT ten miles southwest of Gloucester lies one of the most interesting villages in all England. Famous in history by reason of the battle which bears its name, the town of Tewkesbury is equally worthy of fame for the charm and beauty which characterize it. It has two chief glories:—the famous abbey, which stands at its southern border, and the delightful half-timbered houses which line its fine, dignified, old-world streets.

It stands on the banks of the Avon in the beautiful valley of the Severn. One would have difficulty in finding a country more peaceful or more typical of England at its best. The rolling fields, the friendly rivers, the rich meadows and the distant Cotswold hills unite to form a delightful setting for the town. In the peace of its present it is difficult for one to realize that Tewkesbury was the scene of one of the most sanguinary and ruthless battles of England's civil wars. The abbey walls, which look out upon such peaceful scenes today, saw far different sights on that decisive Saturday in 1471, when the forces of York triumphed, and the House of Lancaster went down in final defeat. The slaughter was not confined to the battlefield, but was carried into the limits of the town and even within the very walls of the abbey itself.

The "Abbey," so-called, is an inseparable part of the charm and atmosphere of Tewkesbury. It dominates the town, but does so in a friendly and not at all in a domineering way. It and the old timbered houses supplement one another, as it were. The houses would lose much of the charm of their setting without the abbey, while the abbey would stand in very lonely beauty, without the atmosphere of Old England which radiates from oak timbering, carved details and stone-covered roofs. The church, of cathedral-like dignity and proportions, is of pure Norman architecture and dates from 1087. There is a mellowness in its deep cream colored stonework and a sheer beauty in its simple but beautifully proportioned exterior and interior which make it vastly more appealing than many a cathedral far more pretentious and much more famous. It is at once impressive and friendly, noble and simple. We must not linger too long within

its walls, however, if we are to enjoy the other offerings of Tewkesbury. The old houses await us on the village streets without. An hour within the abbey has put us in such a frame of mind that we can enjoy them to the full, and we shall do well to seek them out at once, to revel in their charm.

The seeking out is not a difficult matter. As we come out of the abbey gate, the famous "Bell Inn" lies directly in front of us. Originally it was included in the abbey grounds, and it stands as sturdily today as if it had not watched over the southern gateway to Tewkesbury for many hundreds of years. To our right is the main street of the town, on which the most famous and the more elaborate of the old houses of Tewkesbury are situated. It will be worth our while, however, to first stroll down the street immediately in front of us,—a street to delight the eye and the imagination of anyone! A stone's throw only in length, it is lined with ancient buildings and is without one incongruous or jarring modern note. On the left, as we walk toward the river, is the "Bell Inn." On the right are a number of very humble houses of extreme simplicity of design and construction, but with a charm that is all their own. Neat and trim in outward appearance, the interiors, of which we catch glimpses as we stroll by, are as cozy as one could wish. The timbering is practically all of oak, and many of the roofs are covered with stone. The stucco walls with black oaken timbers and the warm tones of the roofing stones blend perfectly. At the end of the street we come to the Avon and to the ancient mill which has stood here for generations. Here we can cross the little river and, looking back, enjoy one of the most attractive vistas in all Tewkesbury. At our feet is the Avon; to our right the mill, its wheel still turning steadily; on the bank from which we have just come an old house which would make any artist or architect exclaim with joy, its beauty again reflected in the water; up the street, rising above and beyond the "Bell" and the little houses of which I have just spoken, and keeping friendly watch over all of these, the splendid Norman tower of the abbey which we visited but a few moments since. He would be a prosaic individual indeed





"HOUSE OF THE NODDING GABLES," TEWKESBURY





"CLARENCE HOUSE," TEWKESBURY



who could stand there and not feel the beauty and unique appeal of the quiet little town before him!

On our way back to the main street, we shall do well to dodge in and out among some of the alleyways near the river bank. Here many of the houses are in poor repair, and the lack of worldly goods is quite apparent. On all sides, however, are delightful examples of old timberwork and, every little while, a new glimpse of our Norman tower, still dominant and still friendly, comes into our sight.

Back again in sight of the "Bell" and the abbey gateway, we are not long in coming upon some of the old houses which are famous as bits of Elizabethan and pre-Elizabethan England. Here the houses are far more pretentious and are generally in a better state of preservation. In their construction, however, they are basically much the same as the humbler dwellings which we have just passed. All of the distinctive houses of Tewkesbury are of sturdy construction. This is notably true of those which were erected in pre-Elizabethan days. There is an interesting description of the construction of these older houses in a little book which I was fortunate enough to secure at Tewkesbury, which says:

The construction of these "oldest of the old" houses, where they have remained intact through the centuries that have passed since their erection, is of a very rough and rude kind—huge oak beams hewn in some neighboring woodland, and seemingly innocent of any further preparation than the sawing and chiseling of mortises and tenons, and the augering out of the holes to receive those strong wood pins, which when once driven home have held fast enough to defy the stormy winds and tempests of hundreds of years to break asunder the huge timbers they were employed to hold together. In the intervals or panels formed by the framework, uprights made of split branchwood were fixed close enough to keep in its place an interlacement of the twigs and leafy brush which had been stripped off the branches. This "walling" was now made solid and surfaced up with a thick coating of a sort of conglomerate called locally "wattle and dab," which proved wonderfully weather-resisting though composed of little else than red marl, of which there was an abundant supply always at hand. The erection was now ready for the rough timber lengths, tough lathing, and ponderous stone tiles from the hillside quarries of the Cotswolds that had to form the roof, and when this was on, the simple structural arrangements of the interior that remained for completion were carried out.

A fine example of one of these so aptly termed "oldest of the old" houses is the "Berkeley Arms," which is still conducted as a modest house of refreshment. The "Berkeley Arms" building proper and the adjoining structures now form two dwell-



"The Old Black Bear Tavern," Tewkesbury



ings. The arcade work on the front, restored in accordance with the original work discovered under a coating of old plaster, is especially interesting. The property is still in an excellent state of preservation. The tone of the weathered oak timbering is delightful, and the carving and detail of the front elevation are worthy of more than the passing notice which we can give to them in these paragraphs here.

Not far distant and on the same side of the street is another noteworthy old dwelling, known as "Clarence House." In the pages of the guide, to which I have referred, this brief account is given:

Some savants who have given the fabric close attention, have expressed the opinion that it had once been surmounted by a gable,—or perhaps a pair of gables of similar style to those of the ancient house standing near on the other side of the road. They have formed their opinion from the appearance of the top of the roof in front of having at some distant time undergone alterations which were completed by covering with lead a large flat space in front of a gable that is seen lying back about a dozen feet from the overhanging part of the front. A roadway (which now forms the site of a residence, with back buildings and garden on the south side) once ran through along the south side of "Clarence House" into the Oldbury Fields, and the lights (blocked up) which opened into it are visible in the side wall. Features for particular remark in the front are the window details,—the center portion of the

lights of the first floor being constructed for use as opening doors; the quaint lights of the top story; and the curious head to the spouting at the north corner. A beautiful ornament of the interior is a Queen Anne ceiling in the first floor front room, which is said to be one of the best of the kind in England.

The present occupant of the premises is proud of this ceiling and of the house as a whole. He gladly piloted me up the stairway, when I called, and takes a real pleasure in allowing one to examine the old beamwork and the mediæval construction of the house. This pride of the townspeople of Tewkesbury in the old houses which they have inherited is one of the most pleasant things about the place. It is a fortunate thing also,—fortunate for the town itself, and fortunate for the lover of beauty and of old English architecture. Instead of scrapping their old buildings or allowing them to decay and fall into disuse, the Tewkesburyites cherish them and do all that they can, apparently, to preserve them unspoiled and to properly restore them where restoration work is necessary. The town is especially indebted to the architectural profession as represented by an English architect, Thomas Collins. Mr. Collins was long a resident



On the Main Street, Tewkesbury





Overhanging Upper Stories Are Often Found in Old Tewkesbury

of Tewkesbury. To his careful research, public spirit, trained ability and general sense of the fitness of things are due in very large measure the preservation and restoration of many of its choicest landmarks. Mr. Collins had for his residence for many years the old mansion or town house situated at what is known as the "Cross" at the intersection of two of the main thoroughfares. Tradition has it that this house may have been the town house of the lords of Tewkesbury. Both without and within it shows evidences of the most careful workmanship and of a care and lavishness in construction and in detail which are notable among the other houses of the town. Fine paneling, interesting plasterwork and fresco paintings and generosity in its general conception and design make the house one of Tewkesbury's treasures. Mr. Collins' activities were not confined to his own house by any means. The townspeople will tell you that to him is due the beauty of many of the fine old landmarks which we admire today, in the restoration work on the abbey itself, and in the general planning of the town. Marks of his taste and discrimination are many.

A very famous old house, apparently substantially unchanged and intensely interesting in its design and by reason of its perfect preservation, is the "Wheat Sheaf Inn." This also is situated on the main street, and only a short distance from the other houses



View Up Church Street from "The Bell"



which we have visited in this very interesting town.

On the west side of High Street are some other splendid examples of interesting design and fine craftsmanship. Notable among them is the so-called "House with the Nodding Gables." In pre-Elizabethan days this was the office for the coaches which connected Tewkesbury with the outside world. Within and without the house is intensely interesting in its design and workmanship. The small windows in the upper story, the supporting brackets on the front, and the unusual gables give the house a unique and quite distinguished effect. Seen either from a distance, as its gables stand out from the neighboring buildings, or at short range from across the street, it commands instant interest and attention. One cannot find, even in this town of splendid old-world houses, a more worthy representative and reminder of the England of other days, and of its architecture.

Directly next door to the house with the gables is the "Swan Hotel." This is an ancient building which is still serving its purpose as an inn. The brick front is not as interesting as the half-timbered fronts of the other buildings, but the property has long been a landmark in Tewkesbury and was noted as a stopping point on the old stage coach route. "Academy House" is another splendid Elizabethan building, notable for its carved oak within and without and for its general appearance of spaciousness



A Very Old House at "The Cross," Tewkesbury



Among the Oldest Buildings Is "The Berkeley Arms," Still Used as an Inn





"The Wheat Sheaf Inn," Tewkesbury

and dignity. Some of the carving and paneling in the interior is of special interest,—notably the carved oak mantelpiece bearing the royal arms of the Jacobean time, when the old chimneypiece was built.

At the northerly end of the village street stands the "Black Bear Tavern." It is a splendid example of the old English tavern. Its oak timbering and beamwork are notable, and one cannot but be impressed by the sturdiness of its construction and its general old-time charm. Tewkesbury is indeed fortunate in possessing two such unspoiled examples of the roadside hostelrys of other days as the "Bell" and the "Black Bear," not to mention a number of other inns within its limits, some of which, such as the "Wheat Sheaf," the "Berkeley Arms" and the "Swan," we have already noted. The "Bell," the "Black Bear" and many of the others are noteworthy for their splendid half-timber and interior timberwork. They are noteworthy also for the atmosphere of true friendliness with which they greet the traveler who seeks refreshment or shelter at their doors, a friendliness which is truly English.

The interiors of the old houses of Tewkesbury are fully as interesting as the exteriors. Oak, of course, played a leading part in interior trim and construction, as it did in the outside timbering and in the



"King John's Bridge," Tewkesbury



general construction work of all of these houses. Much of the carving is very fine. The oak wainscoting and mantels especially, with the patina which their use for hundreds of years has given to them, are unusually attractive and possessed of rare beauty.

We have glanced at only a few of the older landmarks of Tewkesbury and have visited only a few of her streets. Wherever one turns, however, in the town, one will find similar examples of Tudor and of even earlier workmanship. The humble cottages in the poorer sections of the town and the homes of former Tewkesbury aristocrats will be found equally sturdy in their construction and equal sharers in the general beauty which attaches to all of these old houses and to the town itself, full as it is of charm.

The old houses of Chester have long been famous. Those of Tewkesbury are comparatively little known, but they have nothing to fear, certainly, from a comparison. With her abbey, her houses, and her appreciation of their worth, Tewkesbury may welcome any visitor—be he ever so fastidious—with confident anticipation of his approval. He would be a poor sort indeed who would not respond to her historical appeal and to the beauty which she has cherished and preserved with so much care and good judgment. Tewkesbury is a bit of Old England.



Old Gateway, Tewkesbury



Across the Avon, Tewkesbury; Abbey Tower in Distance



A great deal is being said and written of the gradual disappearance of much which renders England charming. Particularly since the war, owners of landed property have been taxed to the point where many old estates have had to be sold. The removal of their old owners, trained for generations in careful observance of the obligations which inherited social standing in England involves, and the coming in many instances of new owners who know nothing of such obligations are affecting many of the traditions which have done so much to the building up of English customs,—and in the process many harmful changes are wrought. Probably the places which are most fully protected from being submerged by these changes are those quiet country towns rather off the beaten track so well traveled by tourists,—



Detail of Old Carved Doorway, Tewkesbury

and of such is Tewkesbury. Long may the town continue to retain the simplicity and beauty which render it so wholly satisfying and charming!

To the architect who travels through the English shires these old towns are an inspiration. Here there exist, in all their glory, those old buildings of which we try so earnestly in America to make "copies," and seeing the old may (and doubtless will) aid in making the new more true to life, even though the development of the world since the originals were built has been at such a pace that the spirit of which the old buildings are an expression has ceased to exist.

It has left us, however, a precious legacy in such old towns as Tewkesbury. Particularly to a visitor from a land as new as America, these old English towns possess all the qualities and the glamour of romance.



A Beautifully Carved Oak Mantel in an Old Tewkesbury House



# Some Features of the Library Building of Cleveland

By LINDA A. EASTMAN  
*Librarian, Cleveland Public Library*

ANY description of the new main building of the Cleveland Public Library should be prefaced by the statement that it forms one unit of a group of public buildings which is in slow process of construction; this is a dominating fact, explaining the whys and wherefores of many features of the building. The relations of this structure to the Federal Building, its companion at the south end of the mall, have determined its ground area, shape, height, general architectural style, and the materials of the structure. When the group is completed, the old commercial buildings to the north will be replaced by additional public buildings and a parked mall 600 feet wide, and the Library will then have its proper setting.

The building has a frontage of 219 feet, and is 197½ feet deep. There are six floors including the basement or ground floor, each of a height to carry two tiers of stacks, while the main floor has three tiers, making 13 different tier levels of stacks. Above the second floor there is an inner court, 78 by 114 feet, from the four corners of which smaller courts extend down to the basement floor level, carrying light and air to all floors. The stacks are built around the court, receiving light and ventilation from it, and the reading rooms with large exterior windows, adjoin and surround the stacks.

The main floor contains those divisions affording the most popular service and meeting the greatest number of quick service calls. Those divisions de-

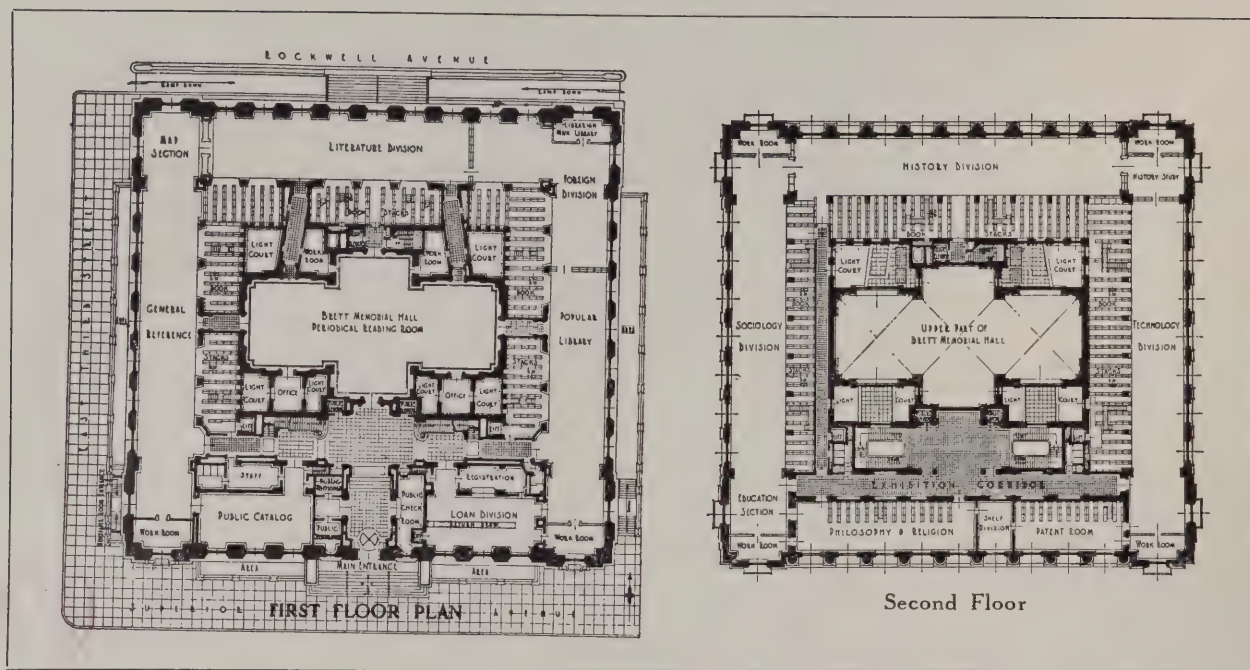
voted to scholarly uses are placed as far as possible in the quieter parts of the building. The further provision of numerous small study rooms and cubicles for students, research and literary workers, is already proving a source of great satisfaction. The breaking up of the book stacks, giving each division two or three tiers of stacks immediately adjacent, with additional storage stacks either above or below it and accessible to it by electric book lifts, is another feature designed to bring into the closest juxtaposition the books on a given subject and the readers who are interested in them. Wall shelving also covers all available space in the reading rooms. All book stacks and shelves are made of steel. Unusual details of the bookstacks are the extended bases which give to the books on the bottom shelves adequate protection from splashing in cleaning floors; the fitting of the stack floors in a manner which permits of ventilation but which prevents the possibility of books falling through; gate bars at the ends of lower tiers of stacks adjoining reading rooms, which will permit the closing off of any section of the stack from public access, if this is desirable; glazed doors with locks on certain sections of the stacks for choice books which should be protected from dust and from casual handling; and movable working desks or extension shelves to attach to the shelves and the balcony railings. A bronze mop-board protects the stacks at the floor-line. The stack lighting was given special attention, the re-



*Photos. Ernst-Eidman Co.*

Cleveland Public Library  
Walker & Weeks, Architects





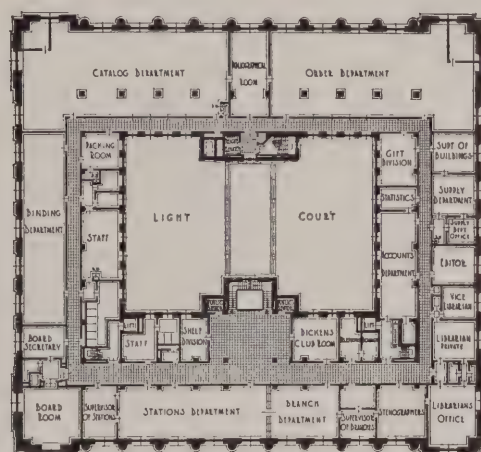
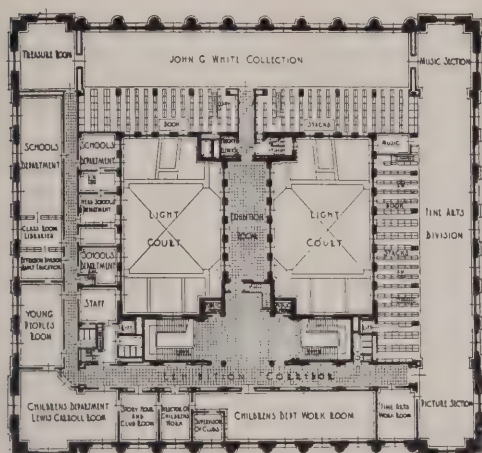
flectors being shaped to screen the light from readers' eyes as far as possible. The spacing of structural columns of the building necessitated stack aisles narrower, for the most part, than those considered desirable for stack construction, but this is not a serious fault in this broken-up stack area, in which compactness for each division is rather desirable. To obviate trucking the returned books across the reading room floors, they are sent by an electric elevator to the balcony of the return room, sorted and trucked up a ramp to the main floor stack, from which they are distributed to their proper stacks.

Windows are so planned that nearly all rooms have exceptional natural light, and the Venetian blinds shut out the sun's rays while admitting 85 per cent of the light and air. To insure adequate artificial lighting, ceiling lights are supplemented by desk and table lamps. The latter are worked out to an original design studied to throw the light on the reader's page and to avoid reflections and direct glare. On individual tables and desks they are placed near the front, at the left of the reader. They are made of bronze; the electric light bulbs are locked in, and are not removable without keys.



The John G. White Reading Room





The public rooms, including the general offices, were equipped throughout with new furniture, specially designed. To fit the spaces and the requirements of the different rooms and the comfort of various readers, there is quite a variety in the sizes, shapes and designs of the reading tables, the lengths of which vary from 15 feet to 30 inches, the latter being the length of individual tables, which many readers prefer, and which have been quite generously provided in many of the rooms. Seats, too, have been planned with a view to comfort; the "Windsor," "Bank of England" and straight-backed

chairs have been modified to combine graceful lines with strength and durability, while other seats and benches of varying designs here and there invite the visitor to sit for a few moments and enjoy the nearest books or magazines. Tables carefully designed for the indices to periodicals and public documents are located at the end of the General Reference Division adjoining the Public Catalog Room, thus making it easy to inquire into the general resources of the Library on any subject. The departments devoted to business service, dictionaries and directories have also been provided for, with







Main Corridor, Third Floor

tables planned to make their consultation easy. Nearly ten thousand new catalog trays were installed, and most of the old cabinets were also brought to the building. The new cabinets are of oak. Some of the other card files are metal, as are the vertical files for pamphlets, clippings and illustrations. In the registration files the trays pull both ways, so that the filing can be done from the rear, out of

sight of the public. A tube index, opening like a book on a lectern, is most convenient for those consulting the current periodicals which are kept on file.

The utilization of the corridors for display purposes is a very important detail. Exhibition cases have been built into the walls of the main corridor on the ground floor and on the second and third floors, and in addition glass display cases on floor standards were built in the broad corridor spaces between the stairheads and in the attractive little exhibition corridor which gives access to the gallery holding the John G. White Collection. These standards, together with the bulletin board frames and standards for the corridors, are of beautifully wrought metal, and the lighting, ventilation and fittings of the cases have been carefully planned in minute detail. Display racks of several types and sizes have been worked out to feature books in the divisions, and there are many bulletin boards. Two display windows in the front of the building's exterior at the street level have been successfully designed by the architects, a difficult feat in a structure of monumental type. The book displays in these windows at the moment of writing are accompanied by posters, one bearing the inscription, "Borrow Books from the Public Library—Free," and the other carrying this quotation from President Coolidge: "It is always well to consult the library for information about courses of reading and the best books and authorities on any subject under consideration."

Guards at the entrances, an information desk in the main corridor for a Library hostess, bulletin board directories and floor diagrams, together with



The Main Entrance



Lobby and East Grand Staircase



a printed guide to the building, all aid in directing visitors unacquainted with it. It is hoped to inaugurate soon a regular docent service, a valuable feature in informing citizens regarding the resources, the varied activities, and the needs of the Library.

There are 57 telephone stations and 16 extensions, with 16 outside trunk lines, 93 automatic house telephones, seven telautograph stations, and a system of buzzers to summon pages and assistants. The clocks are electrically synchronized. A metal baseboard throughout the building carries cables in order to simplify installations of lights, telephones, etc.

The placing of the children's room (named the "Lewis Carroll Room"), on the third floor causes no inconvenience, as this room is more a room for work with parents and teachers than for use of the children themselves, who, because of traffic dangers, are not encouraged to come down town to the Main Library unaccompanied, and who are served for the most part through the branch and school libraries. It is, however, a happy hunting ground for children living near, and for those whom fathers or mothers leave here while doing their own shopping or business errands. In the new "Stevenson Room for Young People" it is hoped to work out some of the vexed problems of the reading public. The name of this room was chosen as a result of suggestions made by the public in English classes in the high schools, consulted for the purpose of learning what name would make an appeal to their interests. This room, it is hoped, will be much used by the young people themselves, as well as by their elders who are concerned with their reading. Offices for the Reader's Adviser, off Brett Hall,



Detail, Corner Superior Avenue Facade

and for the Extension Division of Adult Education in the School Department, are planned to further the staff's efforts in the movement for the education of adults. The name of the future Treasure Room was given with the hope and belief that it will attract treasures unto itself. The placing of the donors' tablets on the stair walls was a happy inspiration of the architect, also valuable for its cumu-



Inner Light Court



Entrance, Brett Hall



lative suggestion of further gifts. Two small rooms have soundproofed ceilings,—one being the staff rest room, and the other the room for the piano off the Music Section of the Fine Arts Division.

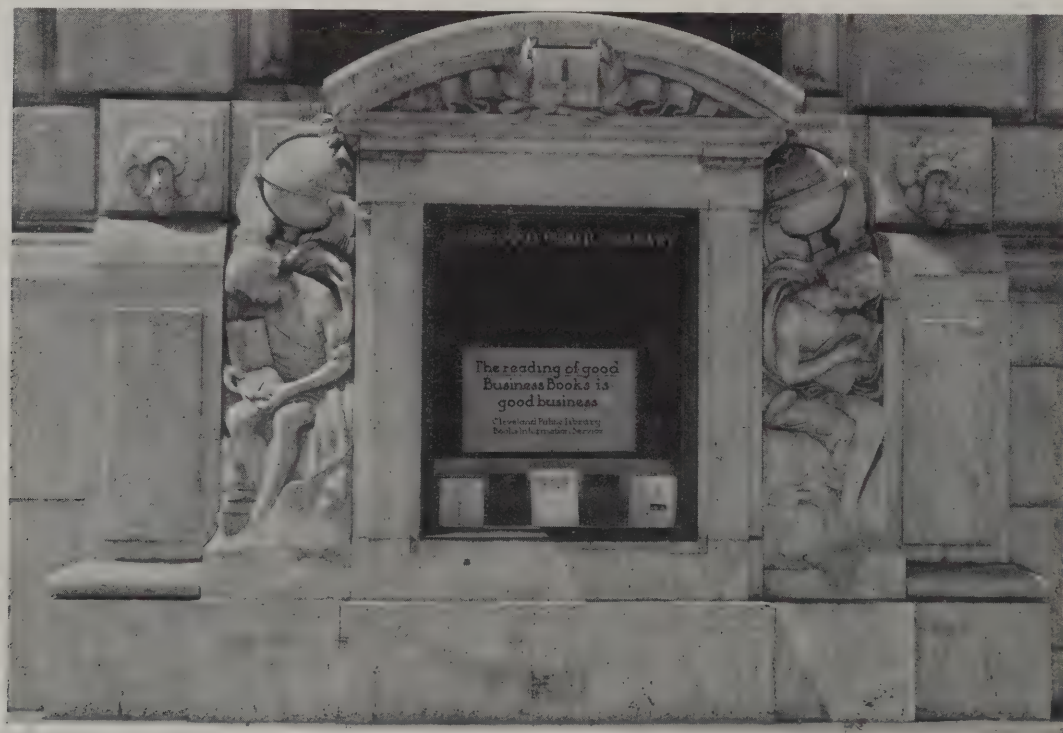
The need for adequate working space for the staff can hardly be over-emphasized, as most librarians know. Insistence has been placed on it in planning this building, and the non-public departments have been laid out with care, with a view to the most economical routing of the various processes of work, while the small workrooms provided for the public divisions meet a long felt want. Although the old furniture used in many of the workrooms suffers by comparison with the fine equipment of the public rooms, the pieces are very comfortably adapted to their various highly practical purposes.

The top floor of the building has much space devoted to staff activities and staff welfare. The Assembly Room and Class Room will be used for public meetings as well as by the staff, but they were planned and equipped with many possibilities in mind, and it is hoped that much "library spirit" will be developed within their walls as younger workers meet with older men and women in apprentice classes, staff meetings, and staff parties; wonderful facilities for social functions are afforded on this floor, where the two rooms just mentioned open up together and on into the Women's Staff Lounge, as well as out upon the promenade which extends all around the building. Here, also, are the Men's Lounge, comfortably equipped; the Cafeteria, which is expected to be opened in a few months; the Committee Lunch Room, where the library board or staff committees can "lunch and labor" when time presses; and adjoining the latter is the Grill, equipped

with range, refrigerator, sink, cupboards and dishes for those who wish to prepare their own luncheons. Judging from comments of many different types of visitors, the attempt to make the building inviting and attractive has been successful. Cleveland seems to be thoroughly enjoying the possession of a real main library building at last, and it has immediately taken its place as one of the principal "points of interest" in the city, always pointed out to visitors.

Any librarian who is bemoaning delays in the starting of a library building may find solace in certain facts relating to the Cleveland Library. The plans for the building were all made and the structure about to be begun in 1917, when the war and the resulting high building costs made it impossible to proceed. Had the building been built at that time, it would now be sadly inadequate to present needs, nor could it have been remodeled to its present plan, since the building as then proposed was less elastic in many ways than it now is. At that time it was thought that the ground floor, first, second and third floors would furnish ample space for the Library for at least 20 years, and the fourth and fifth floors were to be left either unbuilt or unfinished, or else leased to some outside organization for a term of years. Either plan would have found the Library in a hopeless situation today.

Most aptly to library buildings, as indeed to library administration in general, does that wise admonition of the architect, Daniel H. Burnham apply: "Make no little plans. They have no magic to stir man's blood, and probably themselves will never be realized. Make big plans, aim high, . . . remembering that a noble, logical design once recorded will never die." This has been Cleveland's wise course.



Display Window in Superior Avenue Facade





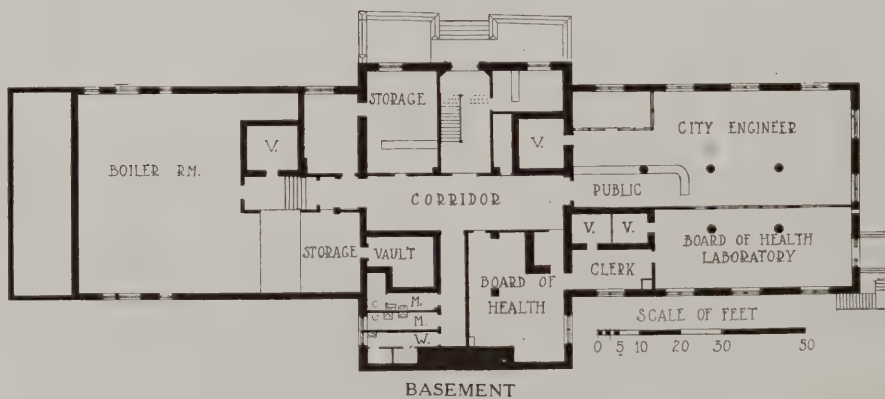
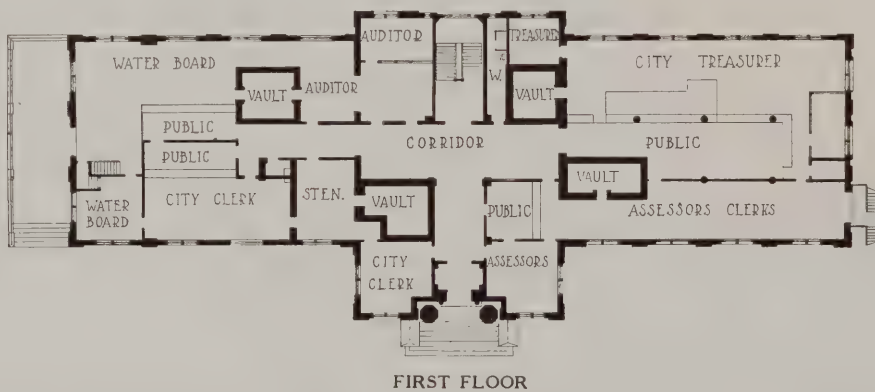
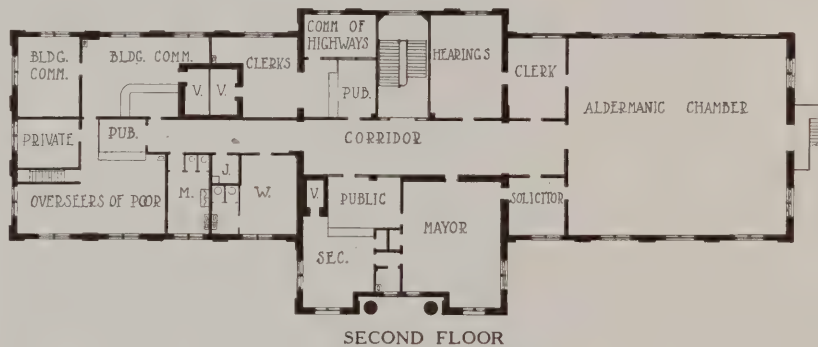
BEFORE ALTERATIONS



CITY HALL, SOMERVILLE, MASS. (AFTER ALTERATIONS)  
RITCHIE, PARSONS & TAYLOR, ARCHITECTS

*Plans on Back*





PLANS, ALTERATIONS AND ADDITIONS, CITY HALL, SOMERVILLE, MASS.

RITCHIE, PARSONS & TAYLOR, ARCHITECTS





BEFORE ALTERATIONS



SCHOOL STREET FACADE, CITY HALL, SOMERVILLE, MASS. (AFTER ALTERATIONS)  
RITCHIE, PARSONS & TAYLOR, ARCHITECTS









DETAIL, MAIN ENTRANCE, CITY HALL, SOMERVILLE, MASS.  
RITCHIE, PARSONS & TAYLOR, ARCHITECTS

*Measured Detail on Back*





• ELEVATION •

ALTERATIONS & ADDITIONS TO  
SOMERVILLE CITY HALL  
SOMERVILLE, MASSACHUSETTS  
RITCHIE, PARSONS & TAYLOR, ARCHTS., BOSTON

JULY  
1926

NO.  
1

The ARCHITECTURAL FORUM DETAILS

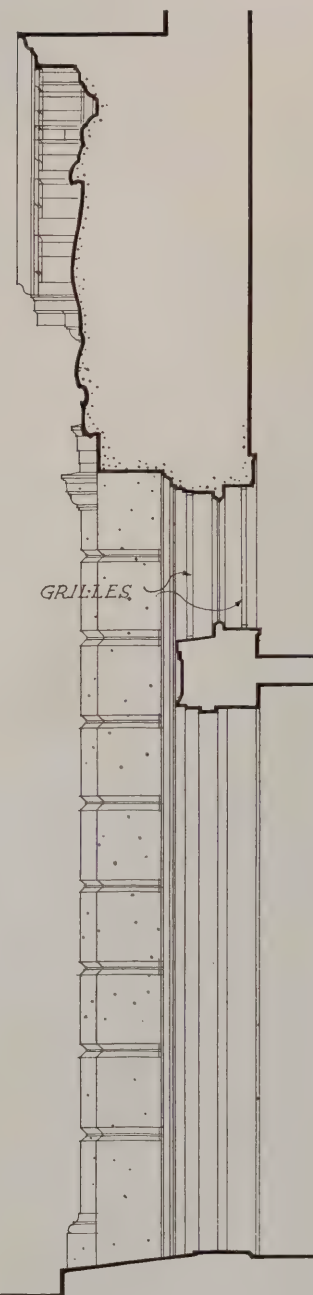
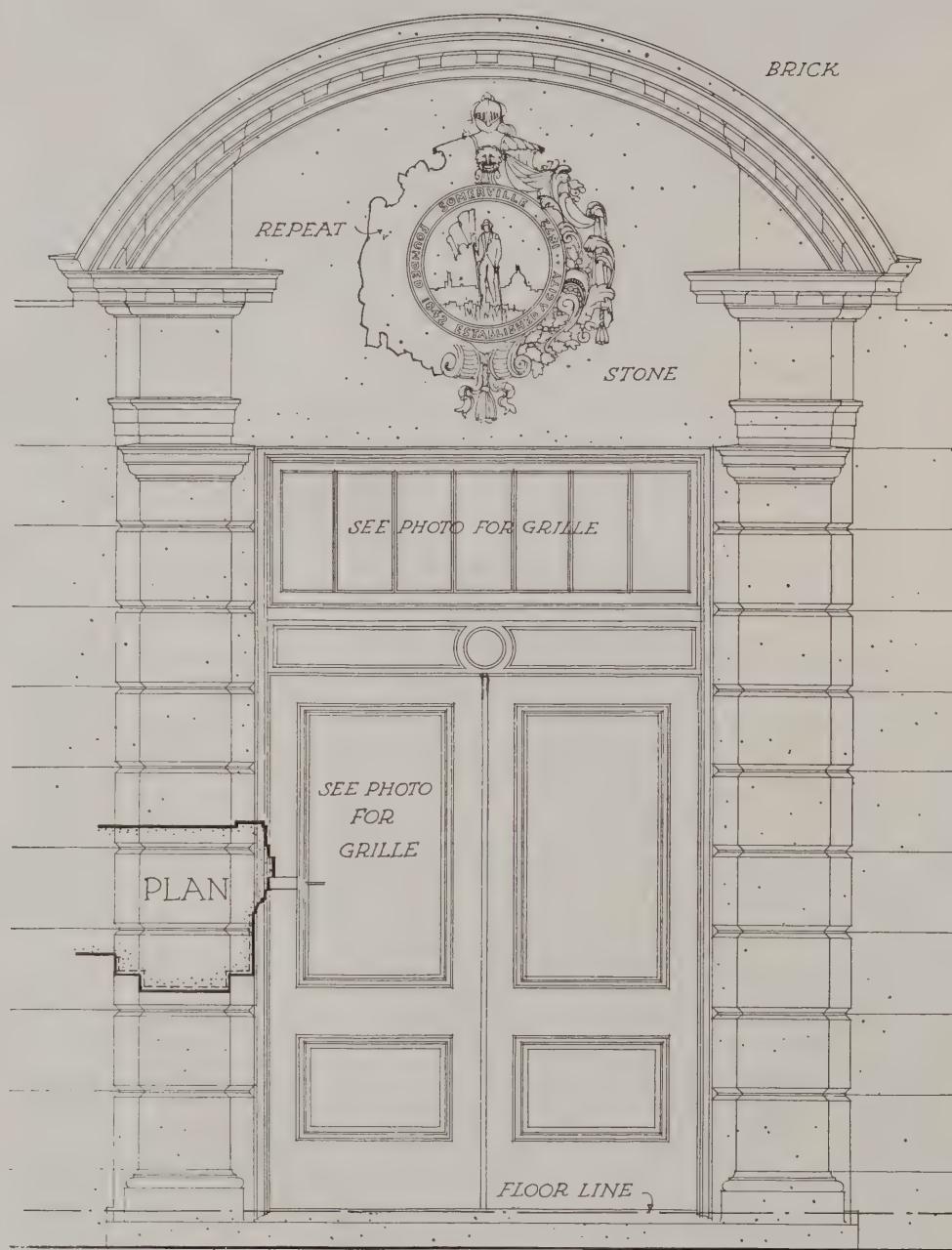




*Measured Detail on Back*

DETAIL, SCHOOL STREET ENTRANCE, CITY HALL, SOMERVILLE, MASS.  
RITCHIE, PARSONS & TAYLOR, ARCHITECTS

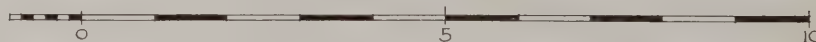




• ELEVATION •

• SECTION •

SCALE IN FEET



ALTERATIONS & ADDITIONS TO  
SOMERVILLE CITY HALL  
SOMERVILLE, MASSACHUSETTS  
RITCHIE, PARSONS & TAYLOR ARCH'TS, BOSTON

JULY  
1926

NO  
2

The ARCHITECTURAL FORUM DETAILS





Plans on Back

HOUSE OF CARL E. MILLER, ESQ., INDIAN HILL, ILL.  
HERBERT HUGH RIDDLE, ARCHITECT

Photos, Truesdell





SECOND FLOOR



SCALE OF FEET  
0 5 10 15 20 25

FIRST FLOOR

PLANS, HOUSE OF CARL E. MILLER, ESQ., INDIAN HILL, ILL.

HERBERT HUGH RIDDLE, ARCHITECT





ENTRANCE, HOUSE OF CARL E. MILLER, ESQ., INDIAN HILL, ILL.  
HERBERT HUGH RIDDLE, ARCHITECT









GARDEN FACADE, HOUSE OF CARL E. MILLER, ESQ., INDIAN HILL, ILL.  
HERBERT HUGH RIDDLE, ARCHITECT









FIREPLACE END OF LIVING ROOM



THE HALL AND STAIRWAY

INTERIORS, HOUSE OF CARL E. MILLER, ESQ., INDIAN HILL, ILL.  
HERBERT HUGH RIDDLE, ARCHITECT







# French Precedent for the Small American House

By HAROLD DONALDSON EBERLEIN

INTELLIGENT eclecticism, open mindedness on the part of the American architect, and ready susceptibility to apt suggestion, from whatever source it may come, have been in large measure responsible for the amazing development of domestic architecture in America within the past 20 or 30 years. Good judgment and disciplined selective faculty have completed the equipment by which American domestic architecture has risen to a position of unquestionable preëminence above the modern domestic architecture of other countries. In a great many instances, modern domestic architecture in England is suffering from the hampering influence of too much insularity and a disposition to intensive inbreeding of style,—a condition, be it noted, wholly without precedent in the rich annals of British architecture since Saxon times. Almost without exception, modern domestic architecture in France and Italy exhibits such meager results that the less said about it the better. And so it generally goes in other countries as well. In Sweden, Holland and Germany, it is true, there have been indications of considerable virility and initiative, but the American mind is too timid in artistic matters to be attracted by the radical spirit of their design. So far as modern Germany is concerned, indeed, it seems that she cannot get away from a heaviness or clumsiness repellent to us and teaching us but little.

The foregoing observations are merely a statement of fact. They are made without any desire or intent either to glorify conditions in America and gloss over the many imperfections and sore spots of which any impartial observer must be keenly conscious, or, on the other hand, to asperse mercilessly the collective contemporary work on the other side of the water. The fact of the matter is that America, having passed through her period of stagnation, from 1840 or 1845 to about the end of the nineteenth century, is now forging ahead in a most encouraging fashion, while the other countries mentioned are just now more or less in a state of architectural experiment, a state from which they will doubtless satisfactorily emerge in due time. All the aspects of the phenomenon are perfectly clear to anyone.

It is the habit with a certain type of purists to decry the presence in America of every archi-

tectural influence that was not naturalized and thoroughly assimilated before 1820 or 1830. The negative, or worse than negative, manifestations of the mid-nineteenth century, which in more than one instance can be plainly traced to a foreign origin, they swallow with composure; the positive and good types that have been absorbed, adapted and employed within the past five and twenty years they unreservedly condemn as unsuitable and exotic. French farmhouses, Italian villas, Spanish *haciendas* and Tudor halls are all equally anathema and are set down as pretentious affectations. They are unwilling to concede that adaptations can be made from all sorts of sources with perfect propriety and incorporated in the body of that "American tradition" of which they are the jealous, self-constituted guardians, so long as common sense and selective discernment are exercised in the process. Such adaptation is the very essence of wholesome growth, and without it we should fall into the same sort of stagnation with which so much contemporary domestic architecture in England is afflicted. Excellent as the American Georgian and Colonial traditions may be, and still capable of unlimited fresh and vital interpretation when not cramped by the ignorance and unworthy conceptions of those who pretend to be their champions, it would be stupid and futile to attempt to jacket the whole country in a monotonous garb of architectural uniformity. After all, modern America is a cosmopolitan country,—we may as well face that fact squarely and not try to delude ourselves about it,—and it is altogether proper that domestic architecture should reasonably reflect this cosmopolitan quality. There are parts of the country, indeed, where Spanish and French traditions are of centuries' standing and ought to be regarded as truly naturalized. In other parts of the land, however,

there is abundant room for the modes of foreign derivation to flourish side by side with the Georgian and Colonial types of prior implanting. If houses are to suit the characters of the people who dwell in them, and reflect their personal tastes and habits, such cosmopolitan diversities, indeed, are necessary. Certain sorts of people who might find an Italian villa a suitable personal environment would be like fishes out of water if obliged to live in an



Small Town House of Early Eighteenth Century  
No. 16 Rue d'Anjouleme, Versailles





FORECOURT, ST. VIGOR, VIROFLAY, (NEAR VERSAILLES)  
GUEST HOUSE ACROSS THE COURT





MASTER'S DWELLING, LA LANTERNE, VERSAILLES  
BUILT LATTER HALF EIGHTEENTH CENTURY







Doorway, Guest House, St. Vigor, Viroflay,  
(Near Versailles)

early Connecticut farmhouse or a Georgian mansion. For a person accustomed to the sophisticated simplicity and refinement of a Regence drawing room, and temperamentally attached to them, it would be positively irritating and even painful to be forced to sit before a bungalow fireplace of cobble stones or rough brick with crossed snowshoes above as a chimneypiece decoration, very appropriate sometimes.

One type of foreign domestic architecture that has taken a strong hold upon American imagination, because of its ready adaptability to American conditions, is the type exemplified by the medium-sized and small French houses of the late seventeenth, eighteenth and early nineteenth centuries, of the formal sort found in considerable number in and near Versailles, and scattered less frequently here and there in other parts of France. This type has not only made a direct appeal to popular taste, but it has also visibly influenced the design of a number of houses built within the past five years, several of which have been published in the pages of *THE ARCHITECTURAL FORUM*. Although these houses display wide diversity in design and each has its own marked individuality, all of them, nevertheless, have certain well defined characteristics in common, and



Early Nineteenth Century House, St. Nom-le-Breteche, Seine et Oise



all bear a kind of family resemblance which makes it possible to consider them as a class and subject them to a more or less uniform analysis or examination.

Not a few of the Versailles houses were built and occupied by personages attached to the court. They were near enough to the palace to enable their owners to discharge all their court duties of attendance upon the king, but they also ensured them the boon of domestic privacy not to be hoped for under the royal roof. The privilege of being at court, with a right to living quarters in the palace, was most jealously esteemed, but the burdensome exactions of court etiquette and the mean attics often assigned even to very great people made continuous residence in the royal household almost unbearable. The relief of domestic life and the seclusion of an environment that was all their own, establishments they could order as they pleased without anyone to consult but themselves, and places where they could employ their leisure as they liked, all these the courtiers found in their own independent houses that were designed with all the suavity and delicate refinement of an exquisite and eminently polished epoch. Designed for a simplified though elegant mode of house-keeping, the number of servants necessary for their



Detail, Kitchen Door, St. Vigor, Viroflay,  
(Near Versailles)



Gateway and End of One Wing, La Lanterne, Versailles





Gate Lodge, Villa Trianon, Versailles  
Built About 1740.

proper maintenance was minimized, and it was possible to live in dignity and comfort without great expense. All of these houses, and some of them are quite small, possess a distinguished and thoroughly individual aspect, and all of them, whether set in spacious grounds or within the bounds of narrow plots, disclose dignity and amplitude of a sort commonly associated with structures of far greater extent and pretension. Furthermore, they are small enough to have a pleasing, intimate domestic quality.

When we come to analyze their common characteristics, we find that the dwellings and all of their dependencies are considered as complete compositions. There are no detached elements that have no particular places in the schemes and might readily be eliminated. Each dependency, stable, coach house, dairy, or whatever it may be, is an integral and essential part of the design. Consequently, these establishments have an air of self-contained completeness that is peculiarly satisfying. It need scarcely be added that there is always carefully calculated balance of composition, whether the arrangement be absolutely symmetrical or not,—and often it is not.

Again, the garden, whether it be large or small,—and several of the gardens can only be described as



La Pavillon de Madame, Versailles



"tiny,"—is invariably considered as an indispensable feature of the plan. Such a thing as planning the house and not providing for the garden at the same time, as its requisite setting, would have been absolutely unthinkable. A gardenless composition, or a composition with the garden space left for future fortuitous development at some convenient season—in the way it so often happens in America—would have been an utter anomaly, and such a course would have appeared just about as reasonable as it would have been to complete the walls of a house and then stop short without putting on the roof. Moreover, these houses all possess real privacy, and that too without producing outside a forbidding air of rough, hostile exclusion, and without sacrificing either grace or cheerfulness of aspect inside the enclosure. What the architects did in this respect, and the way in which they did it, ought to give abundant food for thought, especially in places where the amenity of domestic privacy has hitherto been too little appreciated or considered, and where it might well be fostered with great benefit to all concerned. The method of planning ensured the desired privacy. The house was set squarely on or very near the road and walled in, and back of it was the garden with all its attractive-



A Minor Building, St. Nom-le-Breteche  
Nineteenth Century



La Ranchere, St. Nom-le-Breteche, Seine et Oise



ness fully visible from the windows. Or, again, there was a small, high-walled forecourt in front of the house, the garden, also enclosed by high walls, lying behind the dwelling. In any event, thorough privacy was assured, even in the midst of the city, without seeming to ungraciously rebuff the world.

The Versailles houses, and those more or less resembling them in other parts of France, exhibited all the earmarks of the styles peculiar to the periods in which they were erected, but there is no occasion to label and discuss the historic differences of style. They are quite evident enough in the illustrations. But apart from the fact that with their dependencies and gardens they represent well coördinated compositions, it is very much to the point to call attention to their style in the abstract and to note the means by which that style was secured or attained.

Very few of these houses themselves are large, and none of those here illustrated are. On the contrary, several of them are very small, such as the house at St. Nom le-Breteche, the house called the "House of Madame de Pompadour," and the tiny Directoire house at Number 16 Rue d'Anjouleme. One house, indeed, stands on a plot 38 feet wide, and most of the rooms (which are not many) are so small that photographing them is exceedingly difficult. The fact that they occasionally look large and imposing is due to the scheme of arrangement, and every feature, however insignificant, is made the most of as an essential element of the composition. The establishments,—that is to say, the dwellings together with all their immediate surroundings,—are formal, in the sense of having definitely articulate and balanced form, perfectly coherent, logical, and suited to the purposes in view; they are not

formal in the sense which so many people dread, the sense of being ostentatious, rigid and forbidding. There is a vast difference between the formality of well regulated order and skillfully calculated form and the formality of cold and inflexible pomp.

In every instance the design of the house itself shows the utmost reserve in the use of detail. Such details as appear are scrupulously studied, and only enough are used to give accent. Reliance for beauty is chiefly on composition. Furthermore, the compositions are the very embodiments of the severely logical French point of view and are characterized by directness and simplicity. Everywhere the scale of all the parts is so subtly calculated, and the disposition of wall spaces and voids is so just that the houses exhibit an air of thorough repose, dignity and certitude, an aspect emphasized by the general outlines of their masses. There are no superfluous elements anywhere to mar the studied simplicity and conciseness of style. While some of these houses are built of a native limestone ashlar,—a material of engaging color and texture,—the majority of them are built of limestone rubble, coated with stucco and painted pale cream color, gray or white.

The combination of qualities manifested by these small and comfortably formal Versailles dwellings has commended them as sources of adaptation for houses in America. It so happens that a number of the American adaptations have been more or less important creations, but there is no good reason why adaptations for small and inexpensive houses should not be made with equally happy results, since so many of these prospective prototypes are themselves of extremely modest sizes, besides being readily adaptable to life as it is being lived in America today.



House of Madame de Pompadour, Canton Sud, Versailles

LIBRARY



# THE BUILDING SITUATION

## A MONTHLY REVIEW OF COSTS AND CONDITIONS

**A**N examination of the chart given here will show a comparison of building activity this year as compared with that of the year 1925. According to the figures of the F. W. Dodge Corporation, the value of building contemplated and actual contracts awarded during the first five months of this year have amounted to over two and one-half billion dollars, representing an increase of 17 per cent over that of the corresponding period of 1925.

The usual seasonal decline in contract letting is indicated in the months of April and May, which show a decrease compared with the March figures. It is to be noted with interest, however, that the largest volume of contract letting last year occurred in July, August, September and October. An examination of the line showing the money value of contemplated construction indicates that the plans filed during the first five months of this year promise a considerably greater expenditure than plans filed in a similar period last year. It may well be, therefore, that the late summer and fall months of 1926 will show a repetition of the increase in contracts awarded, and it is predicted that the year 1926 will

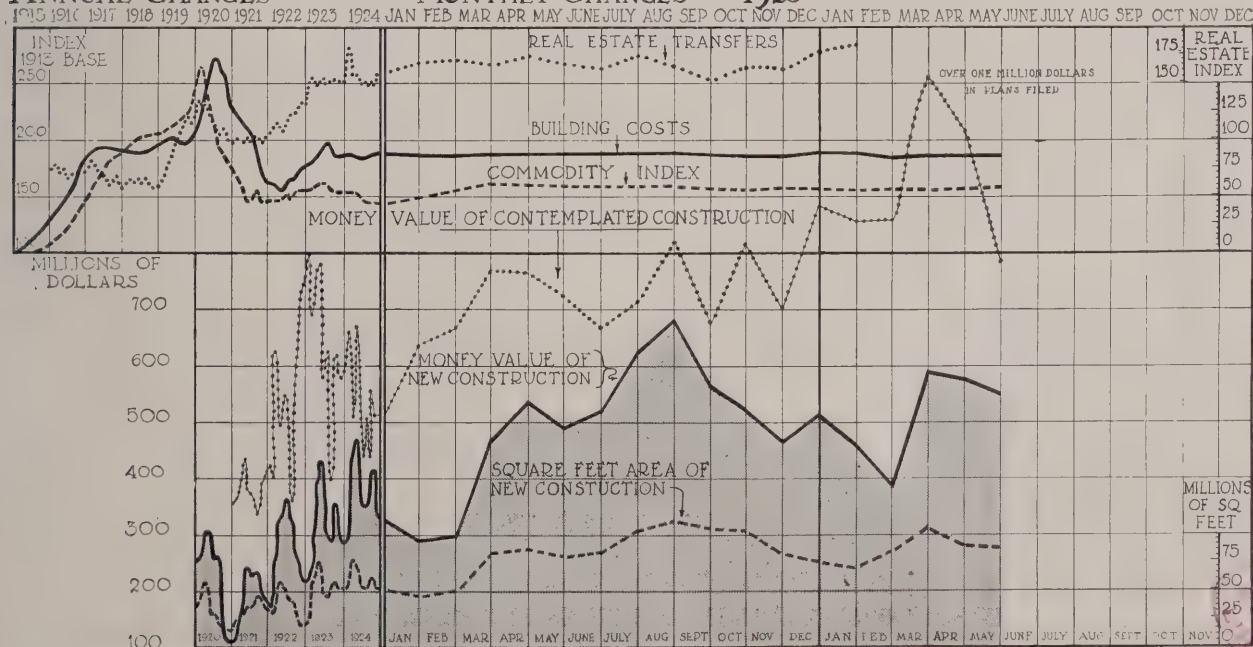
show a considerably greater volume of building than any previous year in the entire history of construction.

There is no reason to believe that the average relative percentage of values of plans filed and actual contracts let will show any great decrease, because there are no obvious reasons for any sudden loss of confidence on the part of investors, who, by the filing of plans, have indicated their intentions of building. Therefore, as the plan filing has been greater, it is anticipated that many delayed projects will come into the market to bring up the line indicating the money value of new construction. This is entirely probable.

Real estate activity continues unabated, and, since many transactions represent the purchase of sites for building, this indicator also promises considerable late summer and fall building activity. The building labor situation has its occasional flurries, but the general condition seems to be fairly stable, and there are no outstanding situations which seem to halt the progress of building momentum. Financing for building projects continues to be liberal, and there is no sign of any restriction in this quarter or of any loss of public confidence in this type of investment.

### ANNUAL CHANGES

### MONTHLY CHANGES 1925



**T**HESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs*. This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index*. Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction*. Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record*. (4) *Money Value of New Construction*. Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction*. The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.



## Self-sustaining and Guyed Steel Stacks

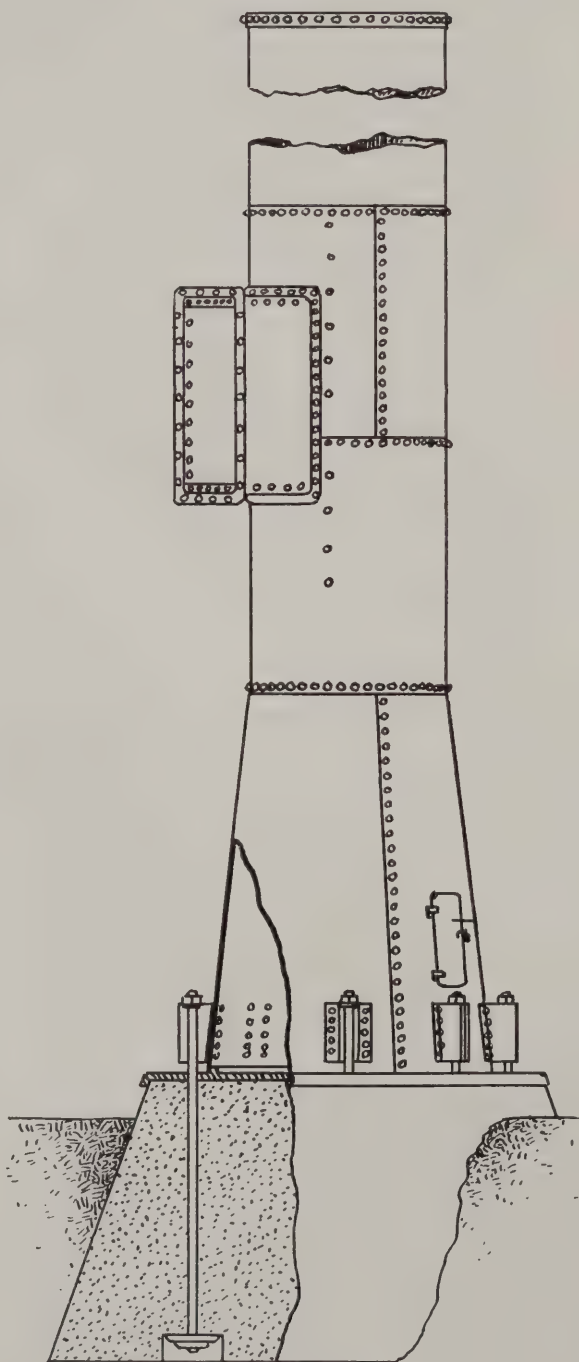


Fig. 50

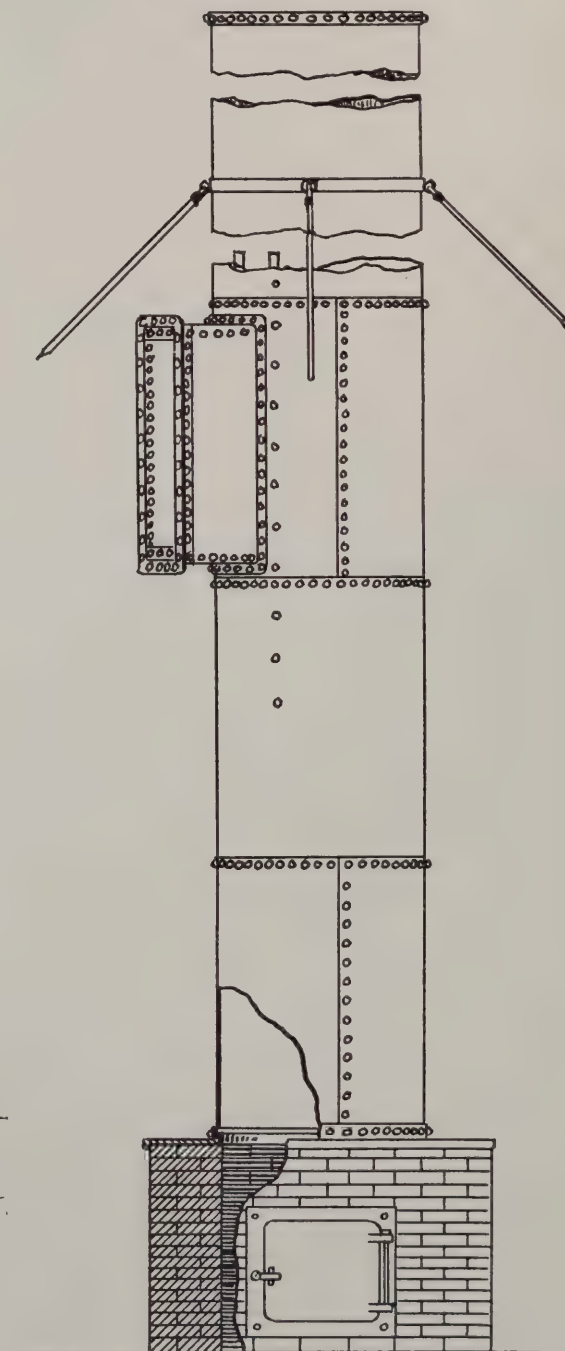


Fig. 51



# ENGINEERING DEPARTMENT

## Power and Heating Plants

### SMOKESTACKS

By J. J. COSGROVE

EDITOR'S NOTE: These articles were begun in THE FORUM for April, 1925 and continued in the issues for August, October and November of that year and in the issue for May, 1926. The present paper concludes the series.

IN these articles consideration has been given to the more important parts of power and heating plants. The usefulness of such a plant is dependent upon the choice of a correct type of each of these details and upon correct sizing of each part.

*Brick and Concrete Stacks.* Brick and concrete smokestacks are so nearly equal in cost that they may be considered here under one heading as "masonry stacks." Concrete stacks decrease in cost per horsepower as the size of the plant increases, the cost being just slightly higher than the cost of a brick stack for the same size of plant above 500 rated horsepower. Brick stacks decrease in cost per horsepower as the size of the plant increases, the same as concrete stacks but not in the same proportion, the decrease being greater and the cost slightly less than the cost of concrete stacks for the same size of plant above 500 horsepower and more than the cost of concrete when below 500 horsepower. Maintenance and depreciation average  $2\frac{1}{2}$  per cent of the total cost of concrete stacks per year, and 3 per cent for brick stacks.

To insure a stable smokestack the parts must be proportioned for the various stresses they must withstand, chief among which are the bearing capacity of the soil, wind pressure, sun sway, and the ratio of diameter to height. It is customary for the designer to figure the stability of the stack at every 10 feet of height. There is a simple empirical rule that a smokestack to be stable must have a diameter at its base of from one-tenth to one-twelfth its height. If in an open and exposed place subject to strong winds, or on a floating foundation on poor soil, a diameter of one-tenth would probably be required; if, on the other hand, the footing rests on bed rock, hard pan or other good bearing, and if the stack is partly sheltered from strong winds, it could be narrower at the base, perhaps one-twelfth of the height being sufficient. Floating foundations for stacks, either masonry or steel plate, are so proportioned that the soil pressure is limited to not over 2 or 3 tons per square foot, the exact limit being determined by the character of the soil.

Smokestacks are not made in uniform diameters throughout their entire heights. They are built with a slope or "batter" toward the center. This batter

gives them greater stability and decreases the amount of surface exposed to wind pressure as they increase in height. The batter of tall smokestacks is generally about .3 inch to each foot in height. Thus in a stack 100 feet high, the batter at all sides would be  $2\frac{1}{2}$  feet, making the top diameter of the stack 5 feet narrower than that at the base. Common practice is to make the upper 25 feet of a brick smokestack that is less than  $4\frac{1}{2}$  feet in diameter at the top, 8 inches thick, and to increase 4 inches in thickness for each 25 feet toward the base. Smokestacks over  $4\frac{1}{2}$  feet in diameter at the top are made 12 inches thick for the top 25 feet, and are increased in thickness 4 inches for every additional 25 feet toward the base. According to this rule, a stack 175 feet high and over  $4\frac{1}{2}$  feet in diameter at the top would have walls 36 inches thick from the foundation to 25 feet above ground level.

A smokestack has a second wall within the outer wall. This is a circular flue of firebrick of uniform diameter and cross section, and is the real flue, the outer shaft being the superstructure which gives strength and rigidity to the whole. This inner flue lining is built into the outer wall for the first 25 feet in height. Above that level for a distance of about one-half the height of the chimney the outer and inner walls are separate, but are tied together with from four to six radial ribs running vertically and built into the inner and outer walls.

Floating foundations for smokestacks are liberally proportioned, due consideration being given the height and weight of the stack and the character of the soil, so that the weight imposed on a unit area of the soil will be well within safe limits. In compact sand and hard clay the footing or foundation for a stack would have a diameter of about one-seventh the height of the stack and a batter of about 1 inch in 5 from the top of the bottom of the footing.

*Steel Stacks and Self-sustaining Stacks.* There is no infiltration of air to steel stacks, and therefore they can be made slightly smaller in diameter than a brick stack. Then, too, they are of much less weight than masonry stacks, and are much safer than a heavier construction on poor bearing soil. For small plants the first cost is much lower than that of other types of stacks, but the cost gradually approaches that of brick or concrete as the size of the plant increases. Steel stacks increase in cost directly in proportion to the boiler capacity of the



plant, this being due to the duplication of stacks for the larger plants. The cost for maintenance and depreciation of steel stacks runs very high, averaging about 16 per cent per annum. A self-supporting steel stack is shown in Fig. 50. The bottom of the stack rests on a cast iron bed plate, and the stack is anchored to a concrete foundation by means of anchor bolts, the diameters of the bolts depending on the diameter and the height of the stack. In the table on this page can be found the sizes of the most commonly used self-sustaining stacks, giving not only the dimensions but also figures regarding the foundations and other important details of the stacks.

#### DIMENSIONS OF SELF-SUSTAINING STACKS

100-FOOT STACKS									
Diam. of Stack	Inside Diam. of Stack at Base	Diam. of Top of Foundation	Diam. of Bottom of Foundation	Depth of Foundation	No. of Foundation Bolts	Diam. of Foundation Bolts	Height of Cone	No. of Cubic Feet in Foundation	
Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	In.	In.	Ft. In.		
4 0	6 0	8 0	12 6	6 0	8	2	8 0	519	
4 6	8 0	10 0	15 0	7 0	8	2	9 0	895	
5 0	8 0	10 0	15 0	7 0	8	2	10 0	895	
5 6	9 0	11 0	16 0	7 0	8	2	11 0	1,040	
6 0	9 0	11 0	16 6	8 0	8	2	12 0	1,240	
6 6	10 0	12 0	17 6	8 0	8	2	13 0	1,415	
125-FOOT STACKS									
Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	In.	In.	Ft. In.		
4 0	6 0	8 0	13 0	7 0	8	2 1/4	8 0	640	
4 6	8 0	10 0	15 6	8 0	8	2 1/4	9 0	1,070	
5 0	8 0	10 0	15 6	8 0	8	2 1/4	10 0	1,070	
5 6	9 0	11 0	16 6	8 0	8	2 1/4	11 0	1,240	
6 0	9 0	11 0	17 6	9 0	8	2 1/4	12 0	1,507	
6 6	10 0	12 0	18 6	9 0	8	2 1/4	13 0	1,719	
7 0	12 0	15 0	22 0	9 6	8	2 1/4	14 0	2,650	
8 0	12 0	15 0	22 0	9 6	8	2 1/4	16 0	2,650	
9 0	14 0	17 0	24 0	9 6	8	2 1/4	18 0	3,210	
10 0	15 0	18 0	25 6	10 0	8	2 1/4	20 0	3,820	
150-FOOT STACKS									
Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	In.	In.	Ft. In.		
6 0	9 0	11 0	18 6	10 0	10	2 1/2	12 0	1,820	
6 6	10 0	12 0	19 6	10 0	10	2 1/2	13 0	2,060	
7 0	12 0	15 0	22 6	10 6	10	2 1/2	14 0	3,000	
8 0	12 0	15 0	22 6	10 6	10	2 1/2	16 0	3,000	
9 0	14 0	17 0	24 6	10 6	10	2 1/2	18 0	3,660	
10 0	15 0	18 0	26 0	11 0	10	2 1/2	20 0	4,300	

It is an open question whether self-supporting steel stacks should be lined. When lining is decided upon there is built inside the steel stack a double course of firebrick making a wall 8 inches thick for a height of from 25 to 50 feet above the breeching inlet. From that level to the top of the stack a single course of common red brick 4 inches thick is used. In tall office buildings interior steel stacks are sometimes unlined, and in other cases they are lined with a heat-insulating or refractory material of

some kind. The objections to lining a steel stack are that the brick lining does not add to the strength of the chimney, although often the stack must carry it. Generally, however, the lining is made self-supporting and is built as an inner core or flue with an air space between the brickwork and the steel stack. It is sometimes objected that moisture might collect in the air space and promote corrosion. Lining a steel stack with brickwork reduces the loss by radiation and protects the steel from corrosive action of gas. The benefits are positive while the objections are more or less unfounded, and the better practice among engineers seems to be to line steel stacks.

*Wind Pressure on Stacks.* The area of wind pressure on a stack may be taken as a surface one-half the diameter of the stack and its full height. That surface may then be considered a flat surface facing the wind. Pressure requires careful consideration.

The plate dimensions for self-supporting stacks can be found in the table at the bottom of this page.

*Guyed Steel Stacks.* A guyed steel stack is shown in Fig. 51. A painter's ring is provided near the top of such a steel stack. This is a circular metal track with trolley and block from which to swing a bo'swain's chair. A ladder is also provided so that the top of the stack can be reached at any time. Guyed stacks do not require heavy foundations because they are much lighter than self-supporting stacks. Sometimes instead of resting on a foundation (as shown in the illustration) they are riveted to the smoke breeching or else are connected with the smoke uptake and with the boiler setting. Guyed stacks are not lined with brickwork, and therefore the plates need not be as thick as for self-supporting stacks of the same size. The thickness of plate is determined largely by the degree of permanence required. Corrosive action of the flue gases and the weather gradually reduces the thickness of the sheets until the stack is no longer safe. The thickness of plates for guyed stacks is generally within the limits given in this table, which is the result of experience.

#### DIMENSIONS OF GUYED STEEL STACKS

Diameter of Stack in Inches	Thickness of Plate	
	Maximum	Minimum
30	No. 8 gauge	No. 10 gauge
36	5/8-inch	No. 10 gauge
42	1/4-inch	No. 10 gauge
48	1/4-inch	No. 8 gauge
54	5/8-inch	5/8-inch
60	5/8-inch	5/8-inch

Guy wires are from 1/2- to 3/4-inch in diameter. They are fastened to a guy ring as shown in the illustration, or secured by means of eyebolts. Each guy is provided with a turnbuckle to take up the

#### PLATE DIMENSIONS FOR SELF-SUPPORTING STEEL STACKS

Diameter Inches	Total Height Ft.	Bottom Section, Including Flare		2nd Section		3rd Section		4th Section		5th Section	
		Height Feet	Plate Inches	Height Feet	Plate Inches	Height Feet	Plate Inches	Height Feet	Plate Inches	Height Feet	Plate Inches
54	100	40	5/8	30	1/4	30	5/8	..	..	..	..
66	165	30	3/8	50	5/8	45	1/2	40	5/8	..	..
78	185	65	3/8	60	5/8	60	1/4	..	..	..	..
120	200	50	3/8	60	5/8	90	1/4	..	..	..	..
132	225	85	5/8	20	3/8	25	5/8	95	1	..	..
144	250	80	1/2	30	5/8	30	3/8	30	5/8	80	1/4



slack and to equalize tautness. The guy ring is the stronger construction when new, but moisture gets back of it, and the resultant corrosion seems to injure the support more than is the case with eyebolts. The number of guys and their arrangement depend on the height of the stack. Low stacks (up to 50 or 60 feet in height) have single sets of three or four guys; over 60 feet there are two sets of guys of four wires each, and stacks over 125 feet in height have three sets of guys of four wires each. The upper or single set is attached to the stack about 12 feet from the top. When there are two sets of guys the lower set is attached about two-thirds the distance from the ground to the upper set. When there are three sets of guys, the upper set is attached 12 feet from the top, the lower set at about half the height of the upper set, and the middle set about half way between the other two. Guys are usually anchored at a distance from the base equal to the height of the guy band so that they are stretched at an angle of 54 degrees. When two or three sets of guys are used, the upper set may be arranged to form an angle of only 60 degrees with the vertical. The guys are fastened at the base to "dead men" or to adjoining structures, where any are available.

*Chimneys for House-heating Boilers.* In the table given here will be found the sizes of chimney recommended by the Furnace and Boiler Manufacturing Association as suitable for producing proper draft for heating equipment of different kinds and various sizes when coke or coal is the fuel used for firing.

A round flue will give better draft than a square or other rectangular shape having the same cross-sectional area. Round flues are recommended where it is practical to obtain them, but when round flue linings are placed inside rectangular chimney walls, care must be exercised to insure complete filling of the corner spaces, since otherwise there is likely to be air leakage into the vacant spaces, which injures the draft and often materially increases the fire hazard.

Stack temperatures in low-pressure boiler plants seldom exceed 450° Fahr. at average rates of oper-

ation. In the better plants it does not exceed 300°. When domestic boilers are operated at capacity, the stack temperature will range from 500° to 600° Fahr. There is no great difference in stack temperature between coal firing and oil firing of the boilers.

Smokestacks, like all other details of construction, particularly in industrial buildings, have passed through various stages of evolution from the small square-section chimney of a blacksmith's forge to the largest chimney or smokestack ever built. The tallest stack in the world is in a New York building. The largest stack in the world is in the plant of the Boston & Montana Consolidated Copper and Silver Mining Company at Great Falls, Montana. This stack is 506 feet tall, and has an inside diameter at the top of 50 feet. The height of this smokestack is not so impressive as its diameter. At the top the stack has an area of 1963 square feet. Through this vast opening, which has a diameter equal to the width of two standard-sized city lots, five-story apartment houses could be discharged with the flue gases, much as sparks are discharged from an ordinary chimney, without any part of the buildings touching the smoke stack; assuming, of course, that the draft was sufficient to lift the structures. When the volume of gases discharged from a smokestack equals or exceeds 1,330,000 pounds per hour, 45 to 50 feet per second is considered an economical velocity. At that rate of discharge, the stack of the Boston & Montana Consolidated Copper and Silver Mining Company would pour forth from 88,335 to 98,150 cubic feet of gas per second, or 352,800,000 cubic feet of gas per hour. That would make a cube of over 700 feet, which would cover nine city blocks, including the streets, and would be more than 700 feet high. The dimensions of the stack are colossal.

There is a large step down from the largest smokestack in the world to the next largest. Germany enjoys the distinction of being second in line. The smokestack of the Halsbrucke Foundry, at Freiberg, Saxony, is 460 feet tall, but of only 8 feet inside diameter at the top, a diameter comparatively modest.

MINIMUM CHIMNEY FLUE SIZES AND HEIGHTS RECOMMENDED FOR FURNACES AND LOW-PRESSURE STEAM AND HOT WATER BOILERS

Area dimensions given are inside measurements of the masonry walls of the chimney											
BOILER CAPACITY			NUMBER OF HEATERS ATTACHED TO FLUE								
Warm Air Furnace Capacity In Leader Pipe Sq. In.  To 450 800 1000	Hot Water Rating Sq. Ft.	Steam (Direct) Rating Sq. Ft.	1		2		3		4		
			Dimensions Inches	Height Feet	Heaters cross-connected forming a battery and attached to one flue opening						
	To 700	To 450	8x12	35							
	900	600	8x12	35							
	1100	700	8x12	40	Dimensions Inches	Height Feet	Dimensions Inches	Height Feet	Dimensions Inches	Height Feet	
	1500	1000	12x12	35							
	2500	1500	12x12	40	12x16	45	16x20	50	20x20	55	
	4000	2500	12x16	40	16x20	50	20x24	55	24x24	60	
	5800	3600	16x16	45	20x24	55	24x28	60	28x28	65	
	7300	4500	16x20	50	24x24	60	28x32	65	30x30	70	
	8700	5400	20x20	55	24x28	65	30x30	70	30x36	80	
	10000	6400	20x24	60	28x28	70	30x32	80	30x36	90	
	12000	7400	24x24	65	30x30	75	32x32	85	36x36	90	
	14000	8400	24x28	65	32x32	75	30x36	85	36x42	100	
	15000	9400	28x28	70	30x36	80	36x36	90	42x42	100	
	17000	10400	28x32	70	30x36	80	36x42	90	42x48	100	
	19000	11400	30x30	70	36x36	80	42x42	90	48x48	100	

Where round tile flue lining is used in place of rectangular, the nearest corresponding area shall be taken.





*Photos. Thomas Ellison*

BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



# The Buhl Building, Detroit

SMITH, HINCHMAN & GRYLLS, Architects

THE Buhl Building, one of the structures recently built in Detroit, forms a striking contribution to the city's architecture as well as to its skyline, owing to the originality and dignity of its design as well as to its height. Located at the corner of Congress and Griswold Streets, it covers a plot 120 by 180 feet, open on three sides and adjoining a 7-story building on one of the short ends. It is 26 stories high, and in its finish and arrangements is among the finest office buildings in Detroit. The lower three floors of the building cover the entire plot. At the fourth floor the plan assumes the shape of a cross,—a rather unusual arrangement, but the result of much study of this particular site. After considering over 30 schemes of varying shapes, such as "L," "H," "I," "O," "U," "T" and others, it was found that this particular plan has all of the advantages of the other plans and none of their disadvantages.

A study of this plan will show that it has a minimum perimeter for a lot of this shape. Courts are eliminated, and all offices become outside offices. The street and alley widths are automatically increased from 60 feet to 90 feet on Congress Street, and from 20 to 50 feet on the alley side, thereby providing better light and air not only to the tenants of the buildings, but to the street and entire neighborhood as well. It also provides more corner offices and group offices at the ends of the wings, producing thereby a greater average revenue. Likewise, all the area is "Class A" space, since all the dark areas have been eliminated from the rental space. No plan could be better.

At the crossing is located all the service in a very compact yet flexible form. It is possible to have as many as eight tenants on a floor without building any additional corridor space, or else a single tenant may use an entire



Buhl Building, Detroit



Lobby, Buhl Building



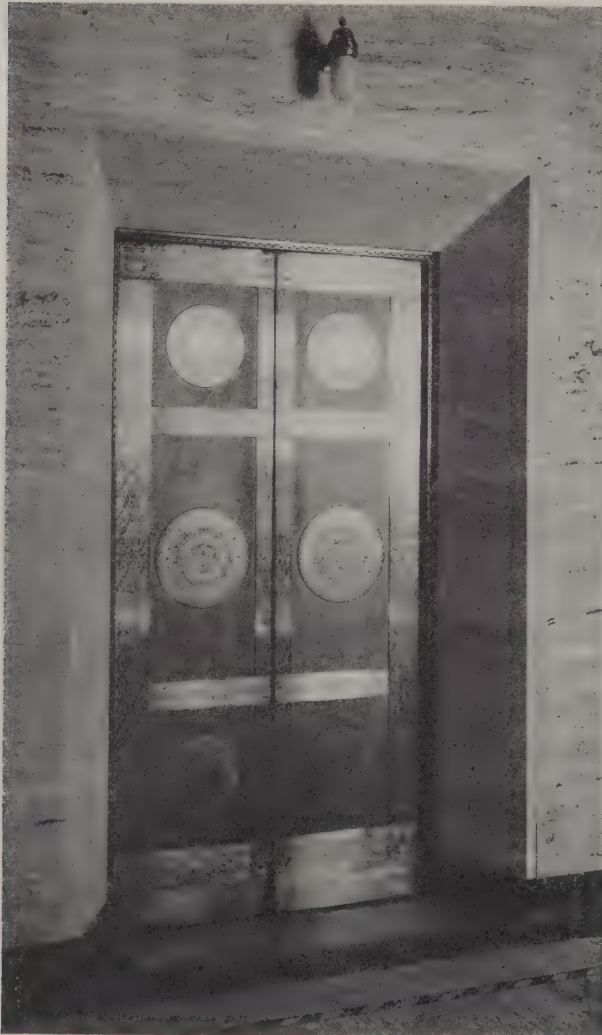
floor with the elevator lobby for a reception room and the four outside spaces as a unit, since they are connected around the service units. The service unit contains 12 high speed passenger elevators arranged in groups of six for local and express; also two fire towers, extending throughout the building; toilet rooms for both men and women; janitor's closets; hose cabinets; meter rooms; mail chutes; fire alarm boxes; etc. With all of these services centralized in this manner, tenant changes do not interfere in any way with the utilities.

The structure rests on caisson foundations, carried down through about 70 feet of hard blue clay, the superstructure being of steel with a combination steel and concrete slab floor. The exterior walls are faced with a specially finished terra cotta laid in blocks of random sizes, with a granite base at the street level. The typical office is approximately 18 by 25 feet,—somewhat larger than usual, but a desirable size. The floors are of cement, and the walls are of plaster on tile, with a slate base. The windows are metal, double-hung type. The doors and trim are of metal, the doors having a full-length single panel of glass and transom, but no side lights.

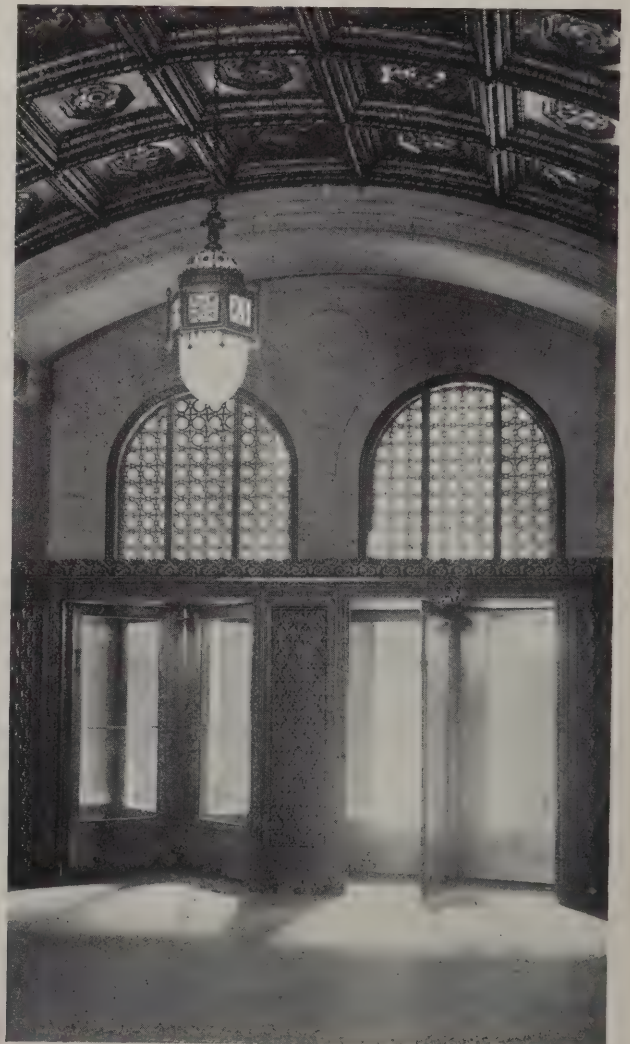
All woodwork in the building has been eliminated.

The elevator lobby and halls in the upper floors are finished with marble floors and a 7-foot marble wainscot; the first floor of the building has an "L" shaped corridor with entrances from both streets, the entrances being recessed and decorated with ornamental iron and vaulted ceilings of mosaic. The rental area of the first floor is arranged to provide for brokers' offices and banks. The public corridor is finished in travertine with an ornamental vaulted ceiling, the elevator doors and office entrances being of bronze. In the basement are located the various service departments, with the exception of a heating plant, since central heat is available.

Surrounded as it is to a great extent by low structures, the Buhl Building dominates Detroit's financial district with all the dignity of its 26 stories, the effect of its height being increased by reason of the strong emphasis which the architects have placed upon the vertical details of its design; and like all the newer buildings everywhere, particularly those given the "tower" form, the structure presents an orderly and finished appearance from all points of view, for there are no walls of raw, uncouth brick to mar its beauty and to spoil its symmetry, conspicuous because of its great height.



Elevator Door, Main Lobby



Main Entrance from Lobby



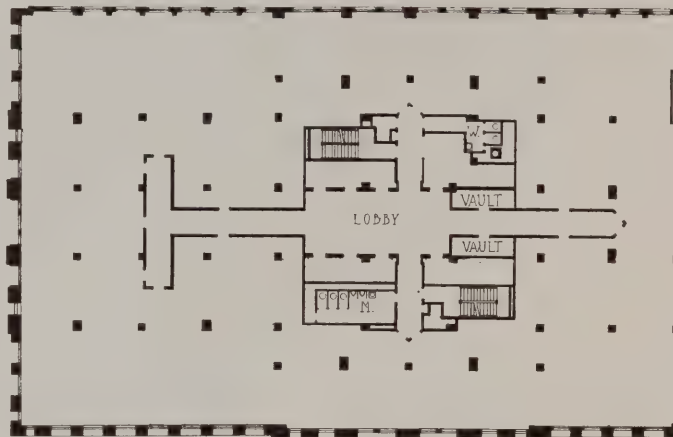


*Photos. Thomas Ellison*

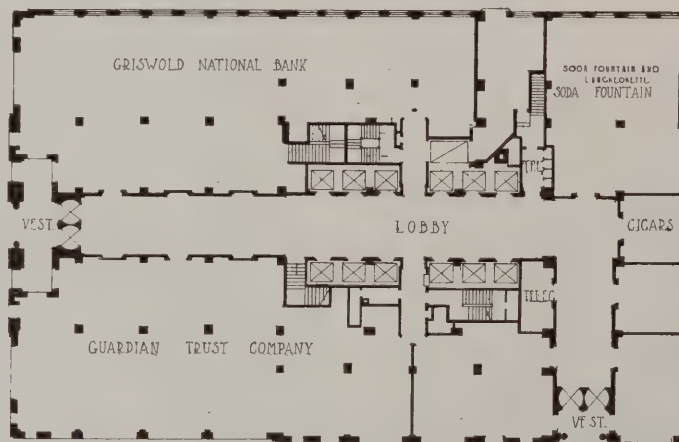
DETAIL OF FACADE, BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

*Plans on Back*



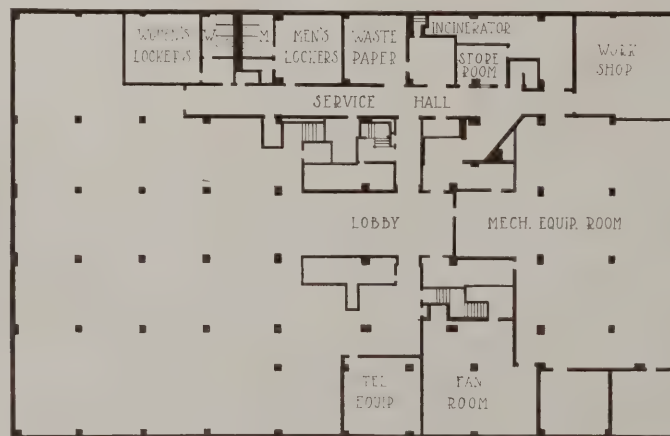


SECOND AND THIRD FLOORS



SCALE OF FEET  
0 5 10 20 30 50

MAIN FLOOR



BASEMENT

PLANS, BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

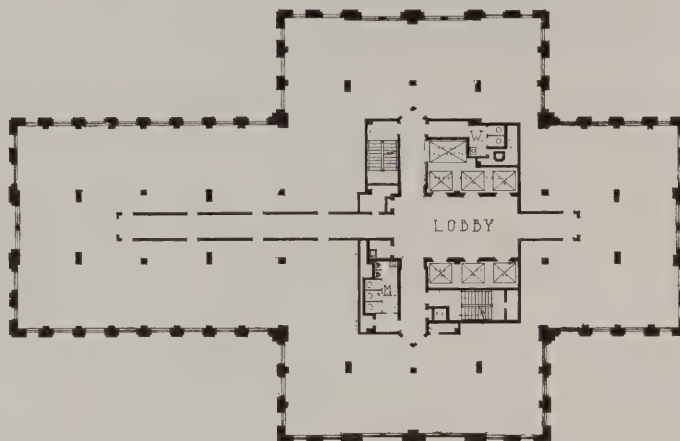




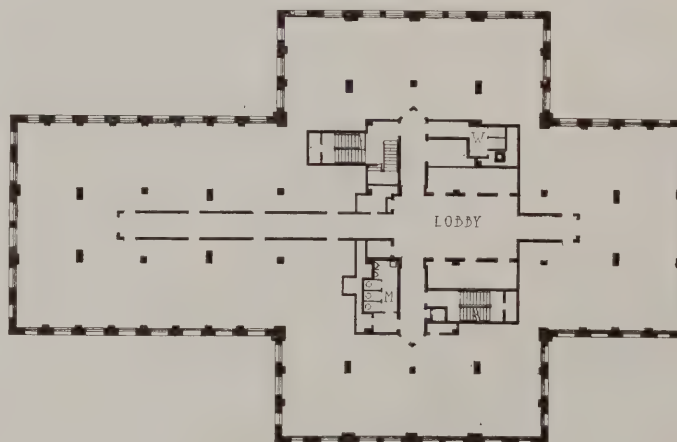
*Plans on Back*

MAIN ENTRANCE LOGGIA, BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS





TYPICAL FLOORS, 20th to 26th



19th FLOOR



TYPICAL FLOORS, 4th to 16th

# PLANS, BUHL BUILDING, DETROIT

SMITH, HINCHMAN & GRYLLS, ARCHITECTS

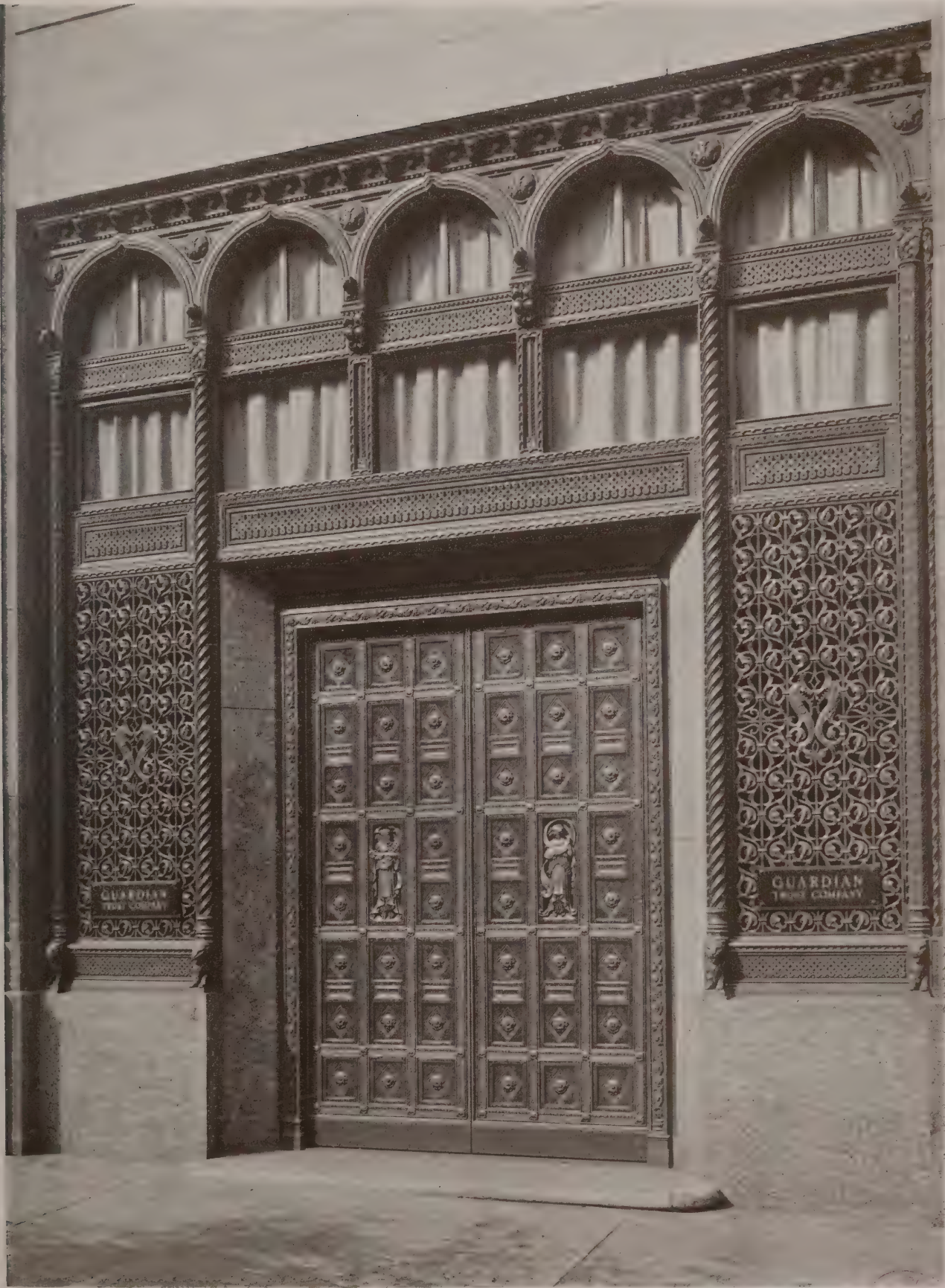




CONGRESS STREET ENTRANCE, BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



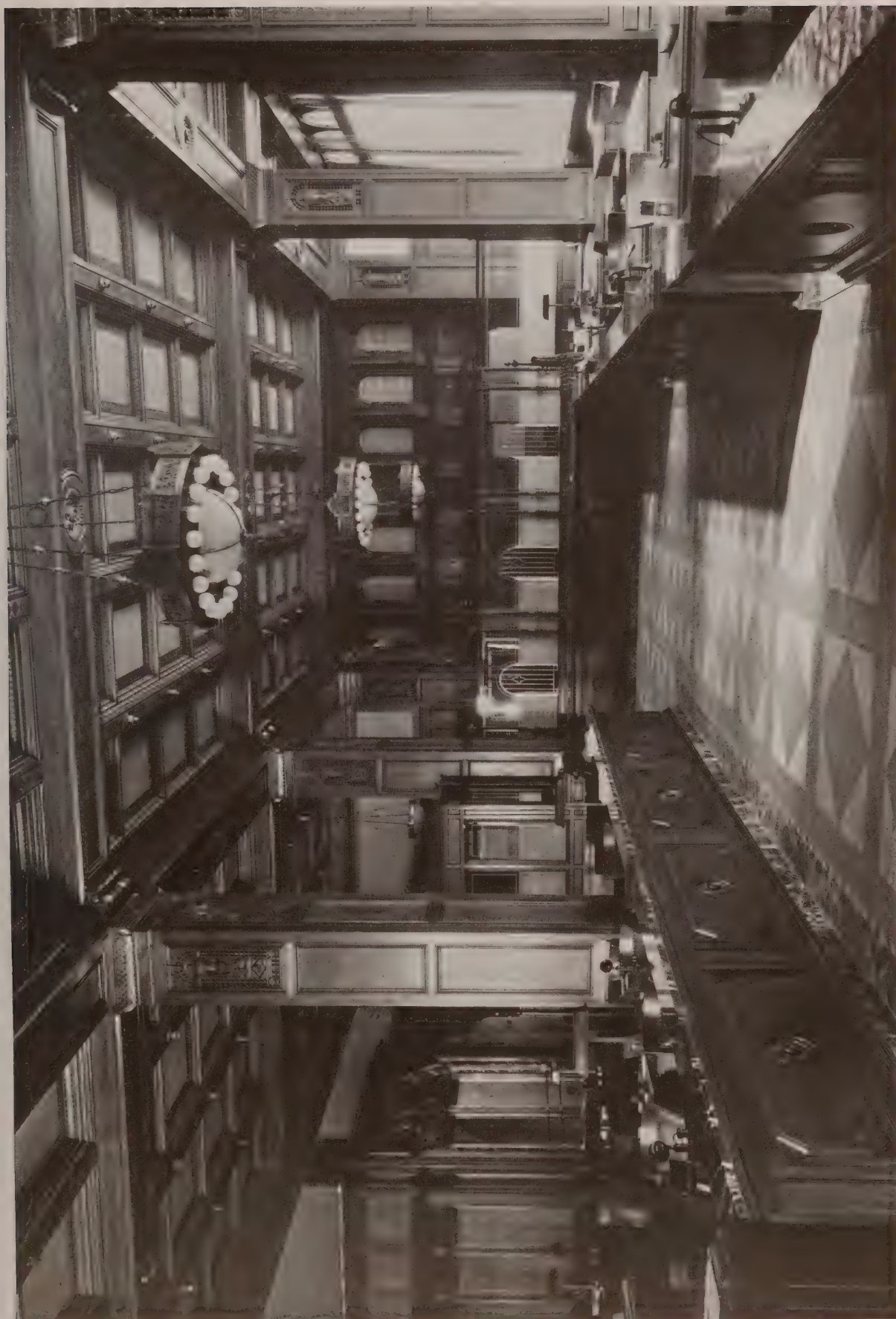




ENTRANCE, GUARDIAN TRUST CO., BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







MAIN BANKING ROOM, GUARDIAN TRUST CO., BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







INTERIOR, THE GRISWOLD BANK, BUHL BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







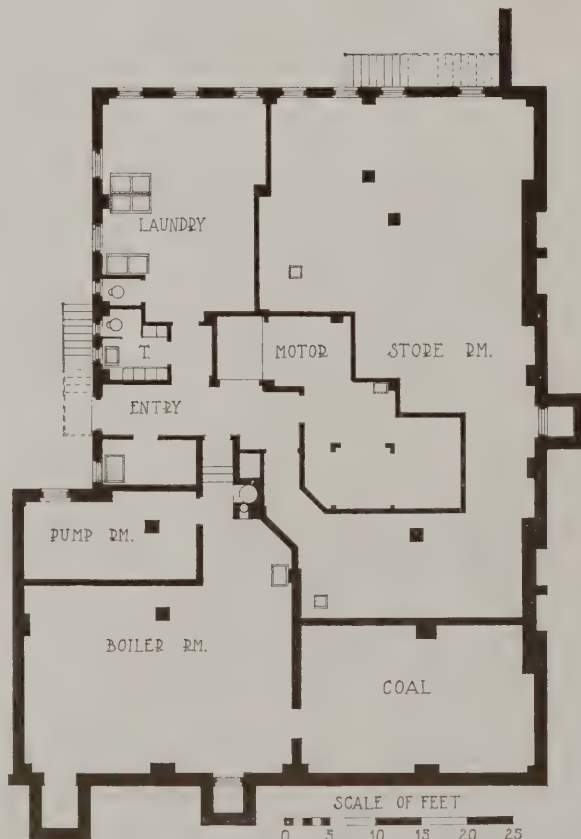
*Photos. George H. Van Ande*

APARTMENT HOUSE, 126 EAST 40TH STREET, NEW YORK  
LAURENCE F. PECK, ARCHITECT

*Plans on Back*



TYPICAL FLOOR



BASEMENT



FIRST FLOOR

PLANS, APARTMENT HOUSE, 126 EAST 40TH STREET, NEW YORK  
LAURENCE F. PECK, ARCHITECT





ENTRANCE, APARTMENT HOUSE, 126 EAST 40TH STREET, NEW YORK  
LAURENCE F. PECK, ARCHITECT





# SMALL BUILDINGS

## The Automobile Service Station

By ALEXANDER G. GUTH  
of Buemming & Guth, Architects

SOMEONE once said that the little red schoolhouse has become the symbol of the poet and of the politician. Much the same might well be said of practically all other types and kinds of buildings. But, as in all comparisons and deductions, there are exceptions to this statement. The exception in this particular case is the automobile service station. This type of building is of such recent "invention" that it has no background and consequently nothing to inspire either the sentimentalist or the politician,—which the traditional schoolhouse has, and which strengthens its popular appeal.

The development of the automobile has likewise been the *raison d'être* for the development of many and varied types and kinds of structures, and among the most necessary and practically indispensable are the service stations. On narrow lanes and on wide, important boulevards these structures are to be found, sometimes wedged in between pretentious buildings, but sometimes placed on important corners with plenty of elbow room. There will be found, ready for the most fastidious automobilists, Chinese pagodas, Mohammedan mosques, Norman castles and Flemish towers. Keen rivalry and business competition have, however, brought about a vast change. Oil and gas operating companies have begun to realize that an attractive building brings trade, and in consequence thereof the oil service stations have taken on better lines of architecture. Some of these establishments are little better than mere dry goods boxes, while others are most pretentious, ornate and ambitious. One might well call them an æsthetic expression of a practical condition. But above all these first efforts are but glowing examples of the fact that we are slaves to haste and imitation. Mostly haste in this particular case, because it is one of the prime requirements of this particular type of building that it be erected in the least possible time. So building it has developed into a sad case of not seeking the best that has been said and done in the world, but mechanically doing something of a stock type and habit, and mostly without rhyme or reason. And then we settle down to think and to honestly believe that we have created something worth while.

The very first consideration in the planning of the service station is the item of traffic flow. Means of ingress and egress are of paramount importance. Traffic rules and regulations, such as left and right hand turns and stops, must be heeded. Local ordin-

ances will take a hand in these determining factors, so this all-important matter will be passed along, with the warning, however, that familiarity with local statutes becomes part of the architect's stock in trade. With all his trials and tribulations he must not only be the clearing house of ideas but of laws and regulations as well! It seems part of his function.

Traffic flow and lot size will determine the placing of the building on the plot of ground. Two problems, however, present themselves immediately. First, whether the building shall be placed near to the street, with traffic directed around it; and second, whether the building shall be placed at the rear of the lot with full prominence given to the pumps. It is a question whether the number of pumps shall advertise the service and the product, or the building shall attract the customer. The consensus of opinion seems to be quite in favor of the former plan. If the building occupies a corner lot, as is generally the case, and if the size of the lot permits, it will be found most practical to plan two traffic lanes, one going and one coming, so to say, or an entrance and an exit (see Fig. 6). This arrangement has been found to be the most practical from observations that have extended over a long period of time. The plan seems to be most elastic and simplifies the coming and going from and to both streets. With this arrangement the pump islands may be placed between the traffic lanes and thus serve also as traffic guides, which are always useful.

The placing of the pumps is the next step. Granted that the oil operating company has determined upon the number of pumps to be installed, the placing of them so that both lanes of traffic may be conveniently served is important. This can best be accomplished by placing the pumps on the traffic islands, as already suggested, or by having two sets of pumps, one for each lane of traffic. A combination of both of these schemes will make it possible to handle many grades of gas, which may be an important factor. The type of pumps and the various technical points in connection with them are of no consequence in this discussion. For general protection, the pumps are best placed on concrete islands. The pumps have rather delicate mechanism and are expensive, so it is necessary to afford them every means of protection. No hard and fast rule has been evolved for the spacing of oil pumps. A study of them has brought out the fact that they

are placed anywhere from 4 to 9 feet on centers, depending on local conditions. The ideal spacing plan seems to be to allow enough room so that two attendants may work back to back at adjoining pumps without interfering with each other when using them.

The proximity of the tanks to the pumps is of no consequence at all. With the modern type of pump this matter is handled so well mechanically that it need not give the planner any concern. The location of the tanks should, however, be duly considered when it gets to the problem of filling them. It is well to bear in mind that the ideal layout is one in which the tanks may be filled in such a manner that the oil delivery truck does not interfere with patrons coming and going. In other words, the filling pipe should be located in a place other than a traffic lane. Otherwise the tanks may be placed anywhere on the premises without regard to the rest of the arrangement. The usually accepted size of tank is of 1000-gallon capacity. The most practical method is to place the tanks side by side with approximately 1 foot of space between them. There seems to be a difference of opinion as to whether the tanks should be permanently covered by the cement drive, or whether they should merely be placed below a grass plot so that they may be more easily gotten at and with less trouble and expense. In some of the illustrations the tanks have been placed below the driveways in a sort of a basement, and access to them is gained by means of manholes placed in the drives.

In this manner all of the piping to and from the tanks and pumps is readily accessible, as are likewise the connections at the bases of the pumps. This is an important matter, since it is frequently necessary to make adjustments at these points of connection.

Drain pits should be provided for the modern service station, and these likewise should be placed below the grade. The resorting to elevated platforms or tracks is an unsightly, messy, makeshift method. The danger of derailing a car and thereby causing possible damage to both man and machine is always present. If the pits are placed adjacent to the building, one stair may be planned to serve both the basement and the pits. The number of pits is optional, though two or three are usually the number. It is wise to provide a curb around the pavement opening to the pits. If this is done it is essential that the outside line of curbing be of such gauge that it will fit in easily between the inside lines of the tires. Thus the cars will be brought immediately over the pits without the automobile drivers' having to do any maneuvering back and forth. This curbing likewise keeps the cars from running into the pits. The equipment of the pits consists of a sort of swinging platform which is arranged so that it may be raised and lowered to suit the fancy or stature of the attendant. A ladder is placed at one end of each pit so as to allow easy access to the pit should the attendant find it more convenient to get into the pit this way than by way of the stairway in the building. An

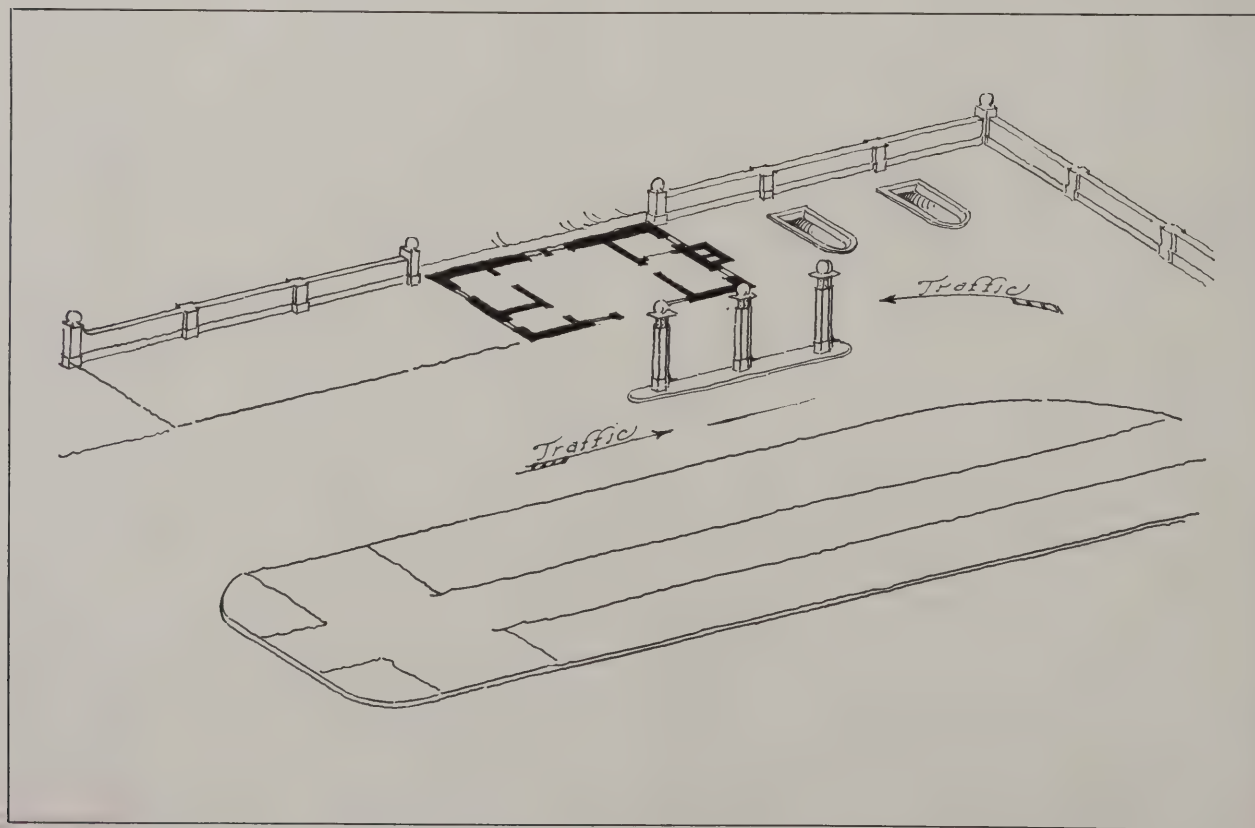


Fig. 6. Plot Plan Showing Good Arrangement for Corner Location. Easy Access to Pumps, Pits and Service Building and Ample Two-way Traffic Spaces Are Provided



ingenious method of handling the oil that has been drained from the machines is to equip each opening with a set of tracks. These should be placed on the inside of the curbs around the openings. A good sized funnel equipped with rollers is then placed so that the rollers rest on the tracks. This arrangement will permit of the funnel's being moved at will to either end of the car. To the lower end of the funnel is attached a rubber hose which is extended to the receptacle that receives the oil. The various lines of piping to and from the pumps form rather a complex arrangement. It is of some importance that this entire arrangement and the planning for it be done before the work above the ground has advanced very far. It is almost impossible to make any changes in this underground work after it has been covered up by the finished, completed driveway.

And while the underground work is being discussed, it should not be overlooked that much other underground piping must still be installed to make the service station a really modern plant, a station that will successfully cope with its competitors. No service station is complete unless it offers convenient means for the inflating of tires and the filling of radiators. The proper location for the air compressor is the basement, and enough space must be allowed for an outfit consisting of tank, motor and compressor. One outfit of this kind is usually enough for the average station. Water connections should likewise be placed near at hand for the con-

venience of the automobilist. The usual arrangement for this service is to install a hydrant or a controlled fixture near the pumps and to equip this with a hose that is of ample length to reach the radiator filling valve. With the great amount of concrete around a service station it is well to provide also a number of taps for lawn sprinklers, so that with a 25-foot hose it will be possible to reach all parts of the premises. It will be necessary to extend all of the piping mentioned from the basement of the building where the meter is located; likewise it is important that this piping be installed in such a way that it may be drained to the basement when cold weather demands taking this measure of safety.

Now as to the building proper. In this brief paper it will be well to avoid that in the way of building which was done at the very beginning. The latest development, or rather that which has been done most recently, is what should interest us at the present time. The logical means of approach will be to divide service stations into these groups: (1) Those that are just large enough to house the attendant and to provide for his simple wants. (2) Those of a somewhat similar character but that also provide shelter for the patron and his car. (3) Those that are of greater size and have rest room accommodations for both sexes. (4) The type that provides all of the details mentioned, and which at the same time is of such size and arrangement as to permit of the carrying and displaying of a stock of

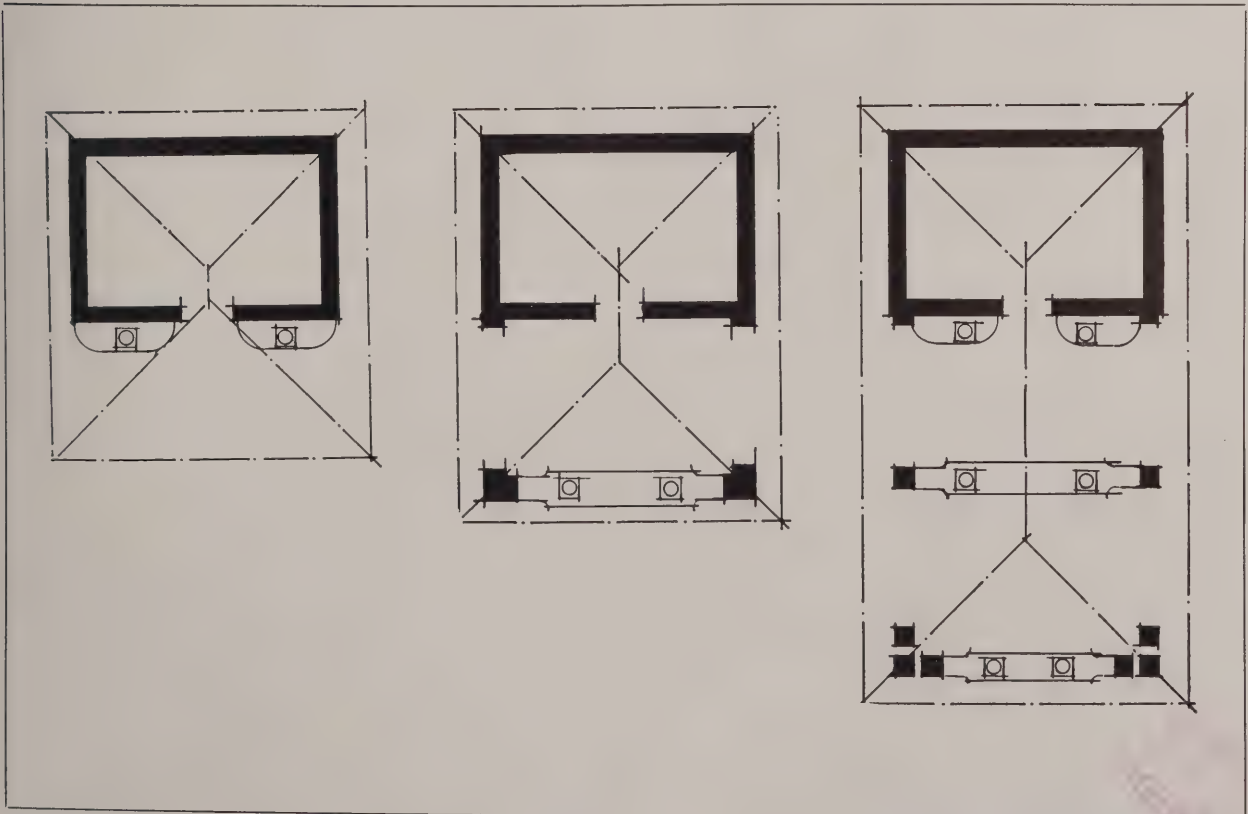


Fig. 2. Plot Size Often Will Determine the Location and Number of Pumps and the Dimensions of the Canopy to Be Erected, Even Though the Service Building Be the Same, as Is Shown Here



SERVICE AND FILLING STATION, BARKHAUSEN OIL CO., GREEN BAY, WIS.  
CLARENCE O. JAHN, DESIGNER



SERVICE AND FILLING STATION, WAUPUN OIL CO., WAUPUN, WIS.  
CLARENCE O. JAHN, DESIGNER





BLUE MOUND FILLING STATION, BARTLES-MaGUIRE OIL CO., MILWAUKEE  
BUEMMING & GUTH, ARCHITECTS



FILLING STATION, BARTLES-MaGUIRE OIL CO., MILWAUKEE  
BUEMMING & GUTH, ARCHITECTS

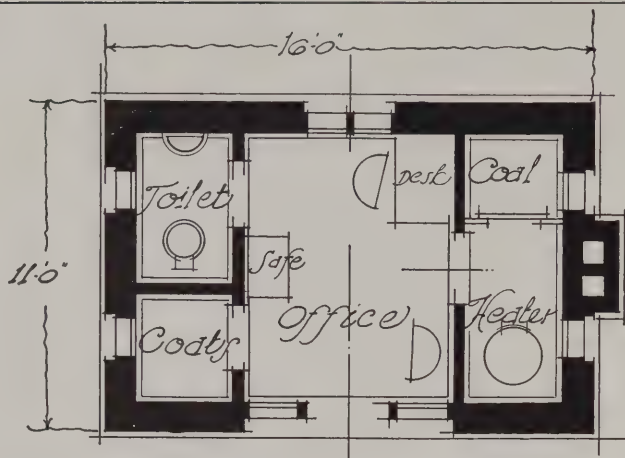


Fig. 1. Simplest Type of Service Station, Providing for Attendant Only

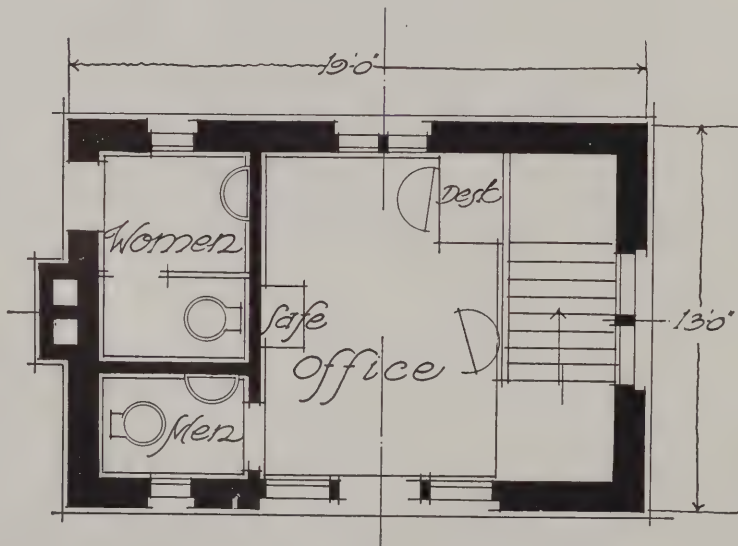


Fig. 3. Slightly More Accommodation for the Patron is Provided in This Service Station

automobile merchandise for sale to passing motorists.

Of the first group, Fig. 1 illustrates a typical example. It will be observed that the space is just large enough for one attendant, or rather for a desk, a safe and a chair space. The cash register is placed on the safe. A compact type of heater or a stove is necessary for this type of building, because economy demands that the structure be set right on the ground without a foundation. This is the type of station that is the most practical and quickly erected. It likewise represents the minimum expenditure, which is one of the essentials when building a service station. This type of building likewise adapts itself to a lot of almost any size or shape as well as to any location, as far as that is concerned.

Passing from this purely utilitarian type to the next stage of development (Fig. 2), we find the type of station which has some provision or shelter for the patron's comfort. As with almost all features connected with buildings in certain regions, certain types persist. This expression of localism expresses itself very strongly with regard to canopies. The

need or advisability of this is a much-discussed subject, and it usually resolves itself into a case of "what monkey sees, monkey does." One competitor merely follows in the footsteps of another, with the intention of attracting the trade from the other fellow. The erection of these canopies is likewise a matter of considerable expense. Because they should be of enough width to cover two lanes of traffic, it becomes necessary to make them of considerable strength, and consequently the initial cost for the constructive members alone is great. To make the canopies practical it becomes necessary to elevate them so that the tallest truck, as for instance a furniture van, may be accommodated. This alone makes them unsightly objects because of the stilted effect. The consensus of opinion is that the canopies are unsightly and are most difficult to handle as far as appearance is concerned. There is no argument but that in inclement weather they serve a really useful purpose, and that the comfort and convenience of the patron are of the utmost importance, besides being the greatest agency for the getting and keeping of patronage.

As has been said before, the patron's comfort comes first. With this in mind the next type of building (Fig. 3) is that which contains rest rooms for both sexes. Access to the women's room is usually by way of a door placed on an inconspicuous side of the building, while the men's room is accessible from the inside of the structure. This makes this latter room likewise convenient for the attendant. The "powder puff" room for the women may be developed into more than an ordinary comfort station. One even runs across rooms that are splendidly decorated and furnished and with women attendants on hand to look after the comfort of patrons. With the advent of these rooms it becomes necessary to provide basements, and heating plants must be of greater proportions so as to make all of the rooms comfortable. Most service stations that have these accommodations will need at least two or three attendants. Necessary lockers for their clothes must be provided, since all first class stations are more and more demanding that their attendants be uniformed, and this changing to and from uniforms daily means that provision must



be made for a dressing room equipped with lockers. The room can also be placed in the basement. The carrying of a stock of accessories is a great accommodation to the automobilist. It is, however, a side line that many oil operating companies do not care to take on, but for the individual who owns his station it is a most remunerative side line. Fig. 4 shows a plan for a station in which has been incorporated a room for the storing and displaying of accessories.

The storage of oils has not been touched upon heretofore. The oil is kept in barrels or small tanks. These are generally conveniently placed upon low platforms so that the receptacles for receiving the oil may be placed below the spigots. A supply of at least three barrels should be provided for. These barrels measure about 2 feet, 6 inches in diameter, so that they may be taken through a door of average width. Placed side by side they take up about 8 feet (lineal). So then, with heating plant, coal,

storage space, lockers, oil storage and the air compressor and motor, the architect will have his hands full providing space for all of these requirements in a basement of the size that it is possible to place below a service station. More often he will be compelled to excavate below the driveway to gain additional room. Fig. 5 illustrates a plan that includes an oil room in the first story. This room contains three pumps, and they are placed along one of the inside walls. The oil is in tanks which are located in the basement. It has been found very convenient to open this room up as much as possible when weather conditions permit it. Consequently, the folding doors have helped to solve this problem in a satisfactory way, giving, as they do, wide open area.

Night illumination of the station and its surroundings is something that should be given due consideration; not, however, with the purpose of getting the same effect at night as in the daytime, because there is no joy in competing with nature in this respect. There are many methods and combinations that may be employed to obtain the desired

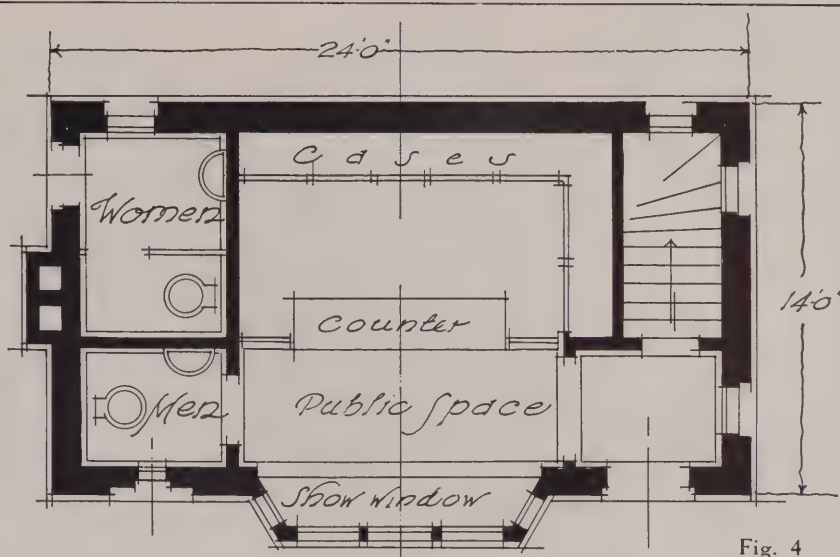


Fig. 4

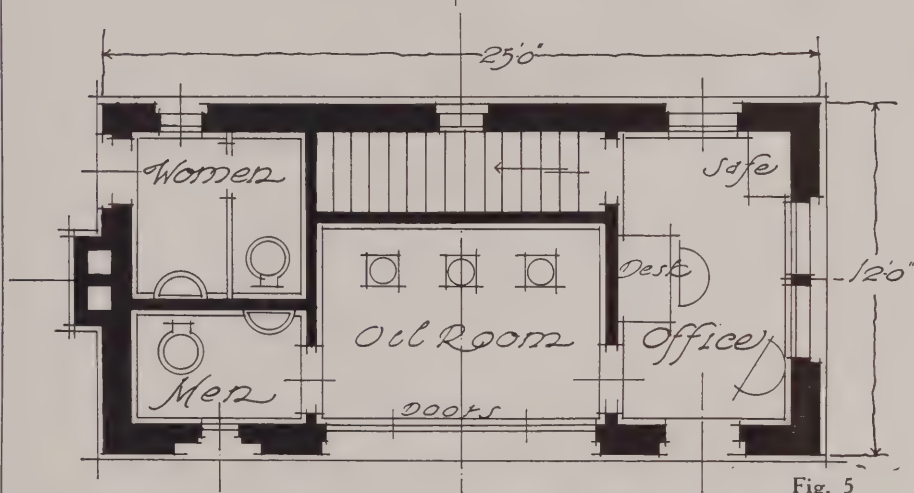


Fig. 5

Figs. 4 and 5 Show Typical Plans for Service Stations Where, in One, Supplies and Accessories Are Handled, and, in the Other, an Oil Room with Three Pumps is Provided

effects. All in all, this night lighting presents a most interesting problem, and in its solution there are no limits to the number of effects that may be arrived at. Ornamental poles placed at the entrances to the traffic lanes are always in good order. Lighting standards give a better scale to the general effect of the buildings than any other motif about the premises, and they also add a decorative note that can hardly be obtained otherwise. Many of our cities have very complete and efficient lighting systems. For the sake of harmony and effectiveness, the lighting that may be already installed near or in front of the premises should be taken into consideration. Floodlighting seems to be one system that particularly adapts itself to the service station. The value of night lighting, of course, is measured mostly in terms of advertising to motor patrons.

Other accessories that will add materially to the complete picture may be placed on the premises. It is well to give the enclosing fence, if one is necessary or required, some thought, since something really worth while may be worked out with this.

Nothing sets a building off to greater advantage than a well designed fence or wall. These may be developed in such a way that the signs may be incorporated with them. As is already known, signs (yes, more and larger signs!) are essential to the success (at least from the operating company's point of view) of all service stations. It is a long step in the right direction to find that the ugly signs of yesterday that were pasted literally over all of the nearby posts, buildings and fences have been succeeded by well designed, dignified signboards, often having decided decorative value.

Much can be done to make the grounds and approaches attractive. There is seldom need or occasion for the entire premises being covered with cement; grass plots should be placed with the same thought and care given to many of the more essential details. Judicious placing of flower boxes and even of flower beds will add materially to the attractiveness of the entire place. One finds bird houses, flag poles with ornamental bases, fountains and many other adjuncts placed with due thought and care, adding greatly to the stations' interest.

Certain features of the building are very necessary from the oil company's point of view, and these also have very much to do with the style and architecture. Among these are ample windows, so as to permit the man inside to be at the instant bidding of the patron. It is not human nature for the busy business man to want to wait for the attendant to see him. So ample windows should be provided so as to permit the attendant to view as much of the approach to his station as possible.

It will be found to be wise economy to construct the building of fireproof materials. In most cities this will be found to be mandatory. Hollow tile walls lend themselves admirably to the construction of these buildings. This tile can in turn be plastered or veneered with brick to suit the fancy of the designer or the wishes of the client. If the right thought and consideration are given to all the minor details it will be found quite possible to design these buildings with practically no woodwork whatever, except for the doors. The floors are most practical if of cement. This material can well be turned up at the walls, thus forming an integral base and likewise a splendid protection for the walls.

The problem of the service station is unique in the annals of building. The planning of the structure proper has reached a state of development



Service and Filling Station, Penn Oil Co., Madison, Wis.  
Clarence O. Jahn, Designer

where one may well say that it is of an accepted type. So it resolves itself into the planning of the entire ensemble, and this indeed offers as large a field of opportunity as almost any other problem that confronts the architect of today. Architects, moreover, are just beginning to analyze this species of building to the fullest extent, and since these stations have taken their places everywhere, it is the architects' problem, yes duty, to lavish their sense of good taste for form, beauty and proportion on them. These

buildings will then be satisfactory in themselves because they will be regarded as of an acceptable architectural type. And, finally, should not the fact be registered that the time is here when we can truthfully say that the service station should be appropriate to its environment? Local building materials and local architectural traditions, more than anything else, should determine the style of these buildings, and this coupled with good taste, proper scale and proportion is bound to produce pleasing results. This, as a matter of fact, is being done already, and in literally every part of the country.

As is invariably the case when a structure fills a popular demand, patrons are asking and expecting far more of service stations than the supplying of fuel oils, the inflating of tires, and the other details which it is their function to give. This need not mean that a station must necessarily render all the details of service which large department and dry goods stores offer their patrons, but it is likely to include toilet rooms, reasonably adequate telephone facilities, and one or two other conveniences. And the same demand which has led to the evolution from the primitive oil tank under a shed to structures of the type described and illustrated in this issue of THE ARCHITECTURAL FORUM is almost sure to lead to further development, for as competition becomes keener and stronger and the public is offered a wider choice of places of service, it is to be supposed that the most attractive stations will be given the most profitable patronage. So it may be reasonably expected that the service station as it exists today, even in its most complete form, is still in a state of progress; its final and ultimate form has not yet been reached, and it is not improbable that in ten years' time the station will possess an attractiveness and offer a type of service far beyond anything which obtains today, even in its most advanced form. Such has been the development of railroad stations and other buildings catering to a popular demand,



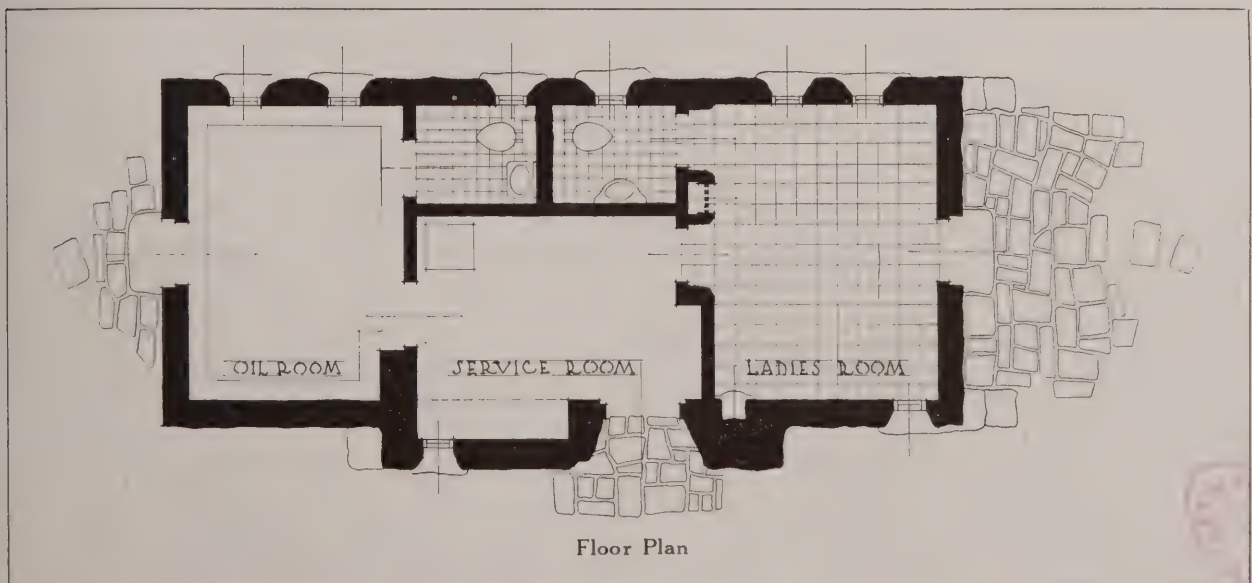


SPINDLER FILLING AND SERVICE STATION, MANITOWOC, WIS.

CHARLES CLARK REYNOLDS, ARCHITECT

WERE it not for the tall, whip-like pumps shown in this illustration, this amusing little building, designed to shelter the dispenser of gas and oil, as well as to provide a rest room for women travelers, would seem to be a bit of stage setting from the "Wizard of Oz" or the "Gingerbread Man." The pleasing quaintness and the irregularity of the design strike a new note in the way of service station building, a type which is so new that no definitely

appropriate style of architectural expression has as yet been developed for this kind of shop structure. That service stations in the suburbs or the country should possess charm and style appropriate to indicate the purpose of the buildings is both reasonable and logical. Just what architectural form of expression should be followed is hard to definitely determine or designate. Apparently thus far no two architects have had the same idea as to the solution



## FORUM SPECIFICATION AND DATA SHEET—120

Spindler Filling and Service Station, Manitowoc, Wis.; Charles Clark Reynolds, Architect

**OUTLINE SPECIFICATIONS****GENERAL CONSTRUCTION:**

Fireproof.

**EXTERIOR MATERIALS:**

Wood, stucco, brick and copper.

**ROOF:**

Shingles, laid with random exposures.

**WINDOWS:**

Wood sash, fixed and casements. Leaded glass.

**FLOORS:**

Tile and cement.

**HEATING:**

Steam.

**PLUMBING:**

Two toilets, fully equipped.

**ELECTRICAL EQUIPMENT:**

Interior and exterior floodlighting.

**INTERIOR MILL WORK:**

Hand-worked oak, left natural and waxed.

**INTERIOR WALL FINISH:**

Textured plaster.

**DECORATIVE TREATMENT:**

Exposed stone sills. Decorative plaster inserts.

Plank doors. Hand-wrought hardware and lighting fixtures. Rest room in old English, open to oak rafters, hand-adzed.

**NUMBER OF PUMPS AND TANKS:**

7 pumps, and 3 tanks of 15,000 gallons capacity.

**APPROXIMATE CUBIC FOOTAGE:**

6,000.

**COST PER CUBIC FOOT:**

\$1.33.

**DATE OF COMPLETION:**

August, 1925.

of this problem. In the case of this building no red or green painted oil pump on the edge of the sidewalk is needed to catch the eye of the motorist. No one passing by at less than 40 miles an hour could fail to notice this unusual bit of architecture. The high pitched roof with its uneven ridgepole and irregular shingles (to say nothing of the unusual texture of the stucco, which the architect says is out of scale and not at all what he wanted) all contribute to the unusual charm of this building. Another interesting detail, not noticed in the daytime, are the concealed lights which flood and illuminate the entire building at night. The architect calls attention

to the bird house effect at the top of the south gable, which in reality serves as a mask for an electric reflector. All the other elevations are flooded by lights under the eaves, and the roof is illuminated by a light on the top of the chimney. These floodlights must give this service station at night an effect more theatrical even than that in the daytime. Everything possible has been done to give this little building unusual charm and distinction,—even the quaint weathervane, which reminds one of the sign posts on entering New Rochelle, showing in caricature an automobile receiving gas, extremely appropriate, of course, for use as a sign for a business of this kind.



End and Rear View



The Entrance Facade

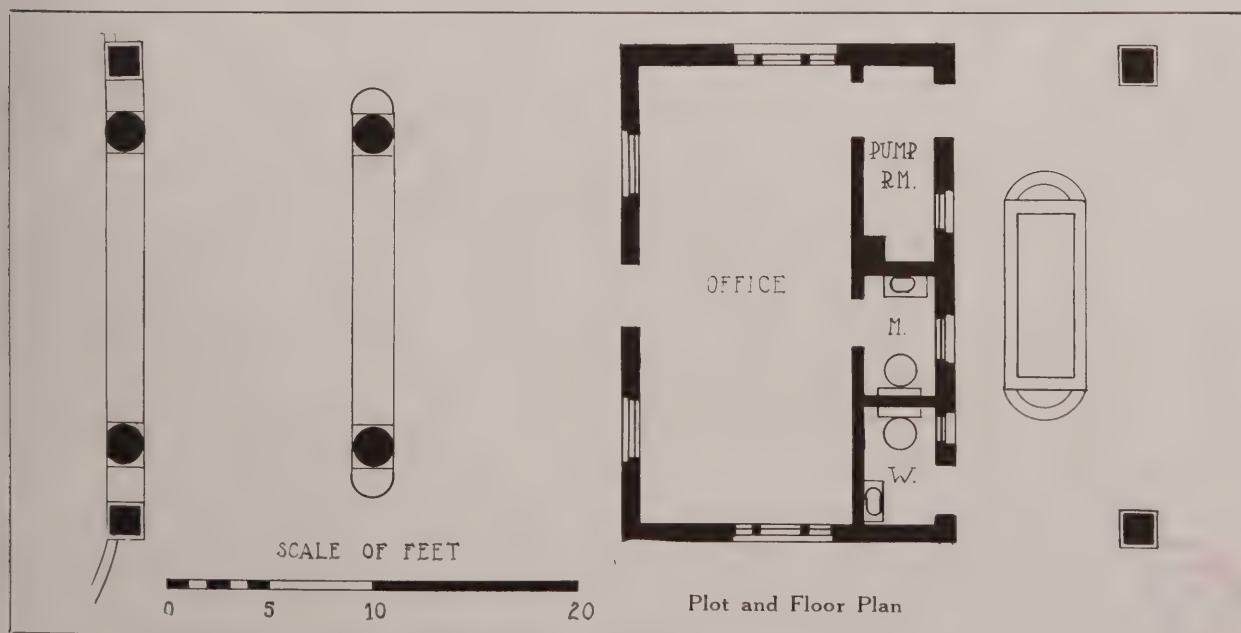




WITTS' FILLING AND SERVICE STATION, LEXINGTON, KY.  
FRANK L. SMITH, ARCHITECT

THE Colonial style of architecture has been used as a precedent for the windows and doors of this practically planned service station. Otherwise no special style can be attributed to the architecture of this building with its Spanish tile roof and simple bracketed cornice and plain entablature. Buff brick is used for the walls and piers, while the windows

and door openings have been enframed with and emphasized by the use of red brick. The plan of the building with its double covered drive is convenient and direct. It is an excellent idea to have the oil pumps and drives, where cars must stand while being filled, covered with some sort of roof. Whether this roof should be a part of and continuation of the



## FORUM SPECIFICATION AND DATA SHEET—121

Witts' Filling Station, Lexington, Ky.; Frank L. Smith, Architect

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Stone base; brick walls, buff texture with red texture arches; stone sills, post caps, etc.  
Cement concrete foundation.

## ROOF:

Green tile.

## WINDOWS:

Wood frames and sash; clear glass.

## FLOORS:

All cement.

## HEATING:

Natural gas.

## PLUMBING:

Closets and lavatories for men and women.

## ELECTRICAL EQUIPMENT:

Interior floodlighting. 9-155-watt ceiling lights

in porch; 53-15-watt lights in soffit of cornice, arranged in three circuits.

## INTERIOR MILL WORK:

Pine, painted.

## INTERIOR WALL FINISH:

Plaster.

## DECORATIVE TREATMENT:

Porch has steel ceiling.

## NUMBER OF PUMPS AND TANKS:

3 pumps; 2 tanks, one of 1,750, and one of 1,000 gallons.

## APPROXIMATE CUBIC FOOTAGE:

11,504, taking the porch at one-half its footage.

## COST PER CUBIC FOOT:

Total cost, including pumps, tanks, etc., approximately \$11,263, practically \$1 per cubic foot.

## DATE OF COMPLETION:

Fall of 1924.

roof of the service building itself or whether it should be a separate roof just wide enough to cover pumps and double roadway is entirely a question of preference on the part of owner and architect. The windows are pleasing in scale and design, and are sufficiently large to give the impression that the structure is designed for public rather than for private use. The building has rather the air of a small railway station with one large waiting room. After all, this type of building is intended to serve the public in a capacity quite similar to that of the railway station, a place at which to stop en route. Therefore the plan should provide rest rooms and

toilets for both men and women, besides sufficient storage space for gas and oil and a small office for the proprietor or service man. The plan of this station follows quite closely this suggested layout. As there is no room set aside particularly for women in this plan, the women's toilet, in order to secure greater privacy, opens outdoors at the rear of the building instead of into the main waiting or service room. Night illumination, which seems to be considered such an important feature in the up-to-date service station, is obtained by rows of electric bulbs set into the soffit of the entablature which supports the roof above the pumps and the double driveway.



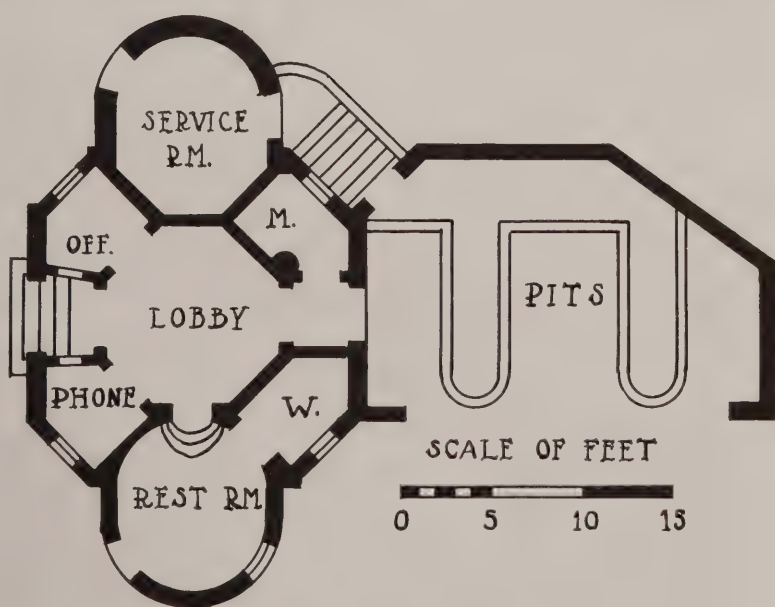
Another View, Witts' Filling Station





COLUMBIA OIL STATION, WASHINGTON

HORACE W. PEASLEE, ARCHITECT



Floor and Pit Plan

**FORUM SPECIFICATION AND DATA SHEET—122**  
**Columbia Oil Station, Washington; Horace W. Peaslee, Architect**

**OUTLINE SPECIFICATIONS**

**GENERAL CONSTRUCTION:**

Brick and concrete; gypsum; wooden roof framing.

**EXTERIOR MATERIALS:**

Stucco and wood.

**ROOF:**

Mission tile.

**WINDOWS:**

Wood casements.

**FLOORS:**

Cement and tile.

**HEATING:**

Hot water.

**PLUMBING:**

Enameled iron fixtures.

**ELECTRICAL EQUIPMENT:**

Interior. Floodlighting. Concealed fixtures.

Lights in soffit, at corners, and floodlights.

**INTERIOR MILL WORK:**

Birch.

**INTERIOR WALL FINISH:**

Rough textured plaster; light mauve in color.

**DECORATIVE TREATMENT:**

Finished in walnut.

**NUMBER OF PUMPS AND TANKS:**

Seven.

**COMPLETED COST:**

**\$15,000.**

**YEAR OF COMPLETION:**

1924.

**A**LTHOUGH much more consistent than most buildings designed for service stations in its adherence to a definite architectural style, this service station, like most of them, shows incongruity in the type of architectural expression chosen. Architecturally this building is good. Its scale and proportions are successfully worked out. The tall, narrow, arched opening through which steps lead to the entrance door is enriched with decoration in color. The plainness of the stucco walls is relieved by the warm tones of the mission tile used on roofs.

The overhanging cornice conceals electric bulbs which at night flood with light the walls of the building. Even the pump stands themselves are given a pleasing and original architectural treatment. It will be noted that adjoining buildings are somewhat

obscured by a high wall and lattice work, as well as by the successful use of cedars on either side of the service station. Octagonal in plan, the interior arrangement is unusually complete and convenient. The small circular wing at the left contains the service or pump room, while that at the right is occupied by a women's rest room with toilet adjoining. Off the main lobby are small telephone and director's rooms on the front, and a toilet for men at the rear. The walls of the lobbies are decorated with maps of the adjacent country. At the rear of the building a sizeable shed protects two automobile pits for the use of cars needing repairs. The design of the building as a whole is unusually attractive and well thought out, and it is probably quite as appropriate for a service station as those in any of the other styles.



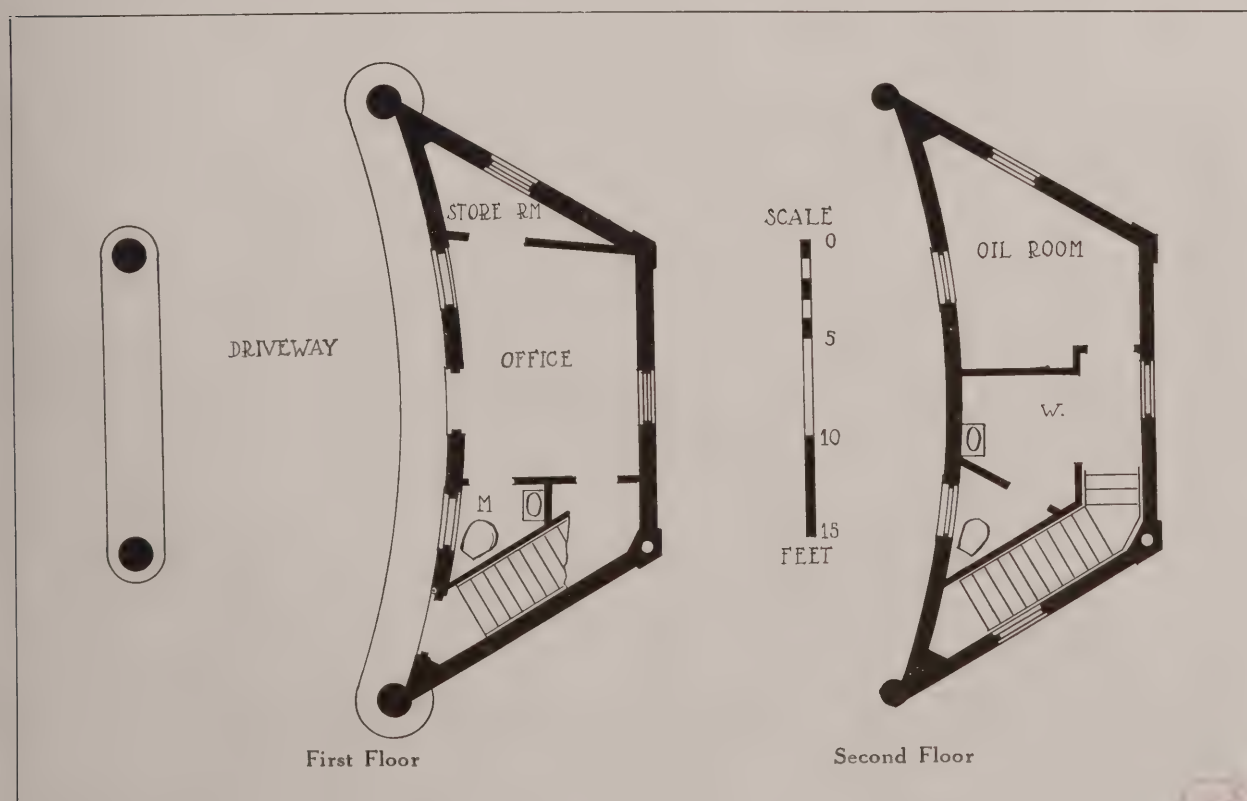
General View of Station and Grounds





*Photos. Paul J. Weber*

COLONIAL FILLING STATION, NO. 27, DORCHESTER, MASS.



## FORUM SPECIFICATION AND DATA SHEET—123

Colonial Filling Station, No. 27, Dorchester, Mass.

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Wood.

## FLOORS:

Concrete.

## HEATING:

Hot water.

## PLUMBING:

Toilets on both floors.

## ELECTRICAL EQUIPMENT:

Overhead lighting.

## INTERIOR MILL WORK:

Door frames, sash, etc.

## INTERIOR WALL FINISH:

Plaster on fire brick.

## DECORATIVE TREATMENT:

Plain.

## NUMBER OF PUMPS AND TANKS:

3 pumps; 2 tanks, 2,000-gallon capacity.

## APPROXIMATE SQUARE FOOTAGE:

450.

## COST PER CUBIC FOOT:

\$2.25, approximately.

## DATE OF COMPLETION:

June, 1923.

**A**MONG the many filling stations scattered throughout New England in which Colonial details have been used to make the buildings more consistent architecturally with their environment or more suggestive of the names of the companies owning them, we find this bizarre little building at Dor-

chester, Mass. The simple Colonial front, appearing under the heavy projecting two-story porch, suggests a piece of well designed stage setting. The proportions of the window and door openings are excellent, and the simple Colonial detail good. But had the plan and use of this building permitted it, eight lighter, more graceful columns and a balustrade more distinctly Colonial in character would have improved the design as a whole. The domical roof, surmounted by a finial, which vaguely suggests a Colonial lantern, hardly seems the appropriate type for a structure which is partly closed and partly open. Had the entire building been an open pavilion, this type of roof would have seemed to be logical and appropriate, as many of the octagonal garden and tea houses of the English Renaissance period were roofed in this interesting manner. The use of larger glazed openings in the treatment of this inner partition or front would perhaps have been more in keeping with the pavilion-like character of the building as a whole. However, as an example of filling station architecture this structure has sufficient interest and merit to warrant its publication; it is far above the average example of this specialized type of architecture, and shows how much individuality and spectacular appeal may be put into the design of this particular sort of commercial building. Most of the plan is taken up by the driveway and the wide platform.

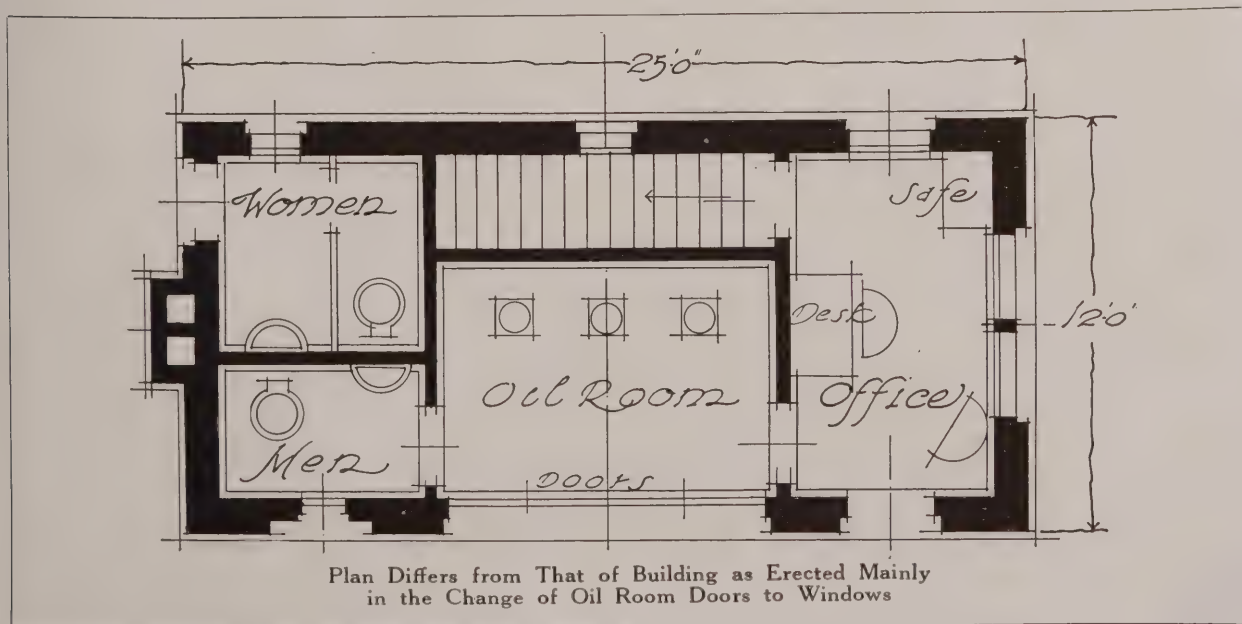


Detail of Entrance





FILLING STATION, BARTLES-MAGUIRE OIL CO., MILWAUKEE  
BUEMMING & GUTH, ARCHITECTS



**FORUM SPECIFICATION AND DATA SHEET—124**  
**Filling and Service Station, Bartles-MaGuire Oil Company, Milwaukee**  
**Buemming & Guth, Architects**

**OUTLINE SPECIFICATIONS**

**GENERAL CONSTRUCTION:**

Fireproof.

**EXTERIOR MATERIALS:**

Red brick and stucco.

**ROOF:**

Rough tile of variegated colors.

**WINDOWS:**

Steel sash.

**FLOORS:**

Concrete.

**HEATING:**

Furnace.

**PLUMBING:**

Enameled fixtures.

**ELECTRICAL EQUIPMENT:**

Lighting.

**INTERIOR MILL WORK:**

Birch.

**INTERIOR WALL FINISH:**

Paint.

**DECORATIVE TREATMENT:**

Walls painted.

**NUMBER OF PUMPS AND TANKS:**

10.

**SQUARE FOOTAGE OF PLOT:**

7,200.

**CUBIC FOOTAGE OF BUILDING:**

6,500.

**YEAR OF COMPLETION:**

1925.

THE pains and ingenuity often taken to give to the design of a filling and service station picturesque quaintness and charm are well evidenced in this building in Milwaukee. Although time is needed to soften and discolor the stucco and brickwork, the building shows in its sagging ridgepole and overhanging eaves much of the spirit which distinguishes

the English cottage design. The tall, wide windows, which break the front and the end elevations, serve the practical purpose of well lighting the oil room and office. Architecturally, these windows would have been improved by the use of heavy wood mullions which are so characteristic of Tudor architecture. The door with its ten glass panes also detracts

from the English spirit of the design. The tall gable over the main front window, with its well placed clock and half-timber, is one of the striking and successful features of this design. One has the feeling that better balance and greater picturesqueness would have been secured to the design had the end chimney been carried up considerably higher above the line of the ridgepole, giving an added height to this part of the design. The chimney as built is sufficiently solid and massive up to the ridgepole, where it is weakened in design by the coping of slate or tile which follows the same slope as the roof. To protect one of the oil pumps, a structure resembling a roofed-over well curb is used, which probably is no more inconsistent for the purpose than is the picturesque English cottage design itself. The plan is simple and balanced. At one end is the office with a door opening directly onto the driveway. This office opens into the oil room, which is indicated on the front elevation by the large casement window. Beyond it is a men's room with the usual fittings.



End View, Bartles-MaGuire Oil Station





BAY SERVICE, LTD., FILLING STATION, BAY STREET, TORONTO  
JOCELYN DAVIDSON, ARCHITECT

THE chief architectural merit of this service station lies in the straightforward simplicity of its design. Practically no decorative effect has been attempted other than in the combination of brick and stucco for the exterior walls. Here red brick is used for a high base course, the lintels of the windows and doors, and, as a crowning feature, of the two substantial looking piers which support the projection of the roof over the open drive. Much is to be said in favor of the plan of this building, which provides for a spacious covered runway, at the center of which are located the oil pumps. A large plate glass window emphasizes the location of the office and gives a proper commercial character to the partition enclosing the business portion of the building. A small door at the left of the plate glass window, balancing the door at the right leading into the office, gives access to a women's toilet. In the office itself a stairway leads down to the basement, where there is adequate space for the storage of oil.

The simplicity of the design of this building is

satisfying and pleasing on account of the particular commercial purpose for which it is intended. Attempts to design filling stations in definite styles, such as English, Colonial or Spanish, seem rather futile, although, of course, the appeal to the eye of something architecturally out of the ordinary undoubtedly has advertising and, perhaps, business value. Good taste, as well as cost of building, would seem to dictate that a simple, straightforward style of architecture should be followed in the design of so commercial a structure as a filling and service station. It does not seem important or even advisable that any definite architectural style should be followed. Rather, the plan should be carefully studied with the idea of working out an arrangement of office, rest room, oil storage room and toilets best suited to the convenience of owners and travelers. All filling stations situated in rural districts should be considered as comfort stations, and should always have toilets for both men and women. The covered driveway is also an important feature to be pro-

## FORUM SPECIFICATION AND DATA SHEET—125

Bay Service Ltd., Station, Bay Street, Toronto; Jocelyn Davidson, Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick walls; wood framing.

## EXTERIOR MATERIALS:

Buff colored stucco over brick. Red brick trim.

## ROOF:

Dark red asbestos.

## WINDOWS:

Double-hung, pine.

## FLOORS:

Birch.

## HEATING:

Hot water.

## PLUMBING:

Enameled iron fixtures in two toilets.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Pine, stained.

## INTERIOR WALL FINISH:

Painted brick.

## DECORATIVE TREATMENT:

Dark brown floors and trim; buff walls.

## NUMBER OF PUMPS AND TANKS:

2 pumps and 3 tanks.

## SQUARE FOOTAGE OF PLOT:

3,200.

## APPROXIMATE COST PER CUBIC FOOT:

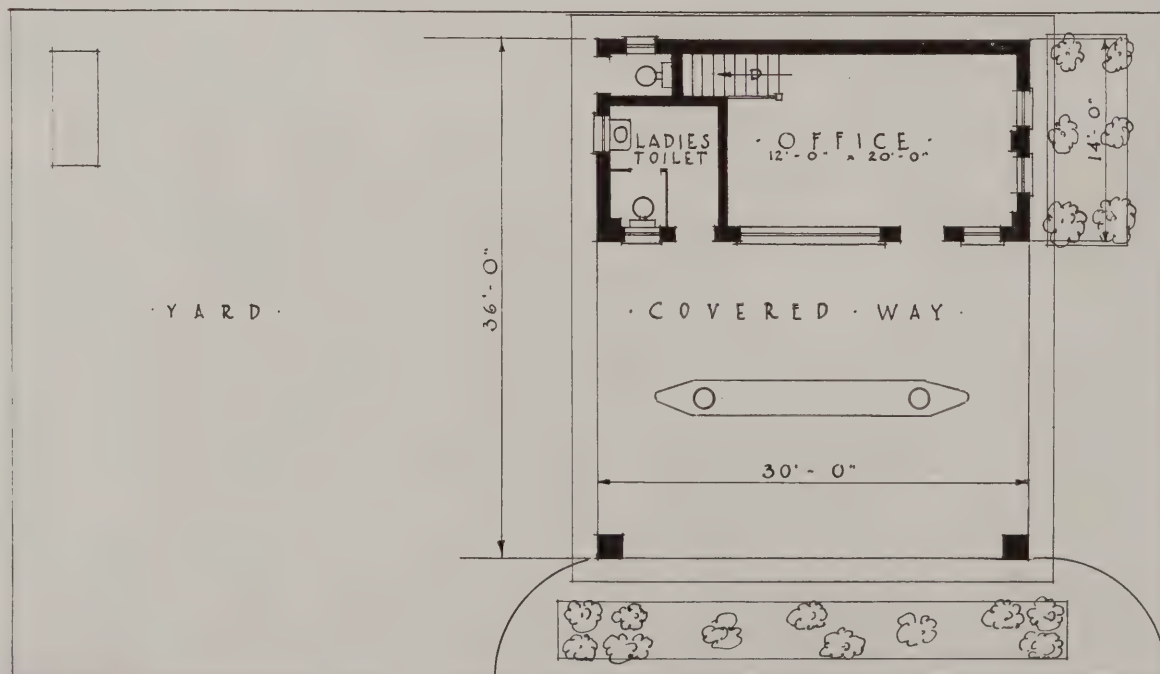
50 cents, including concrete yard.

## DATE OF COMPLETION:

May, 1924.

vided. In case of rain such protection is of benefit not only to travelers stopping at the filling and service station, but also to the station employees. As far as architectural design is concerned, the important points to be considered and worked out in the design are the proportions and sizes of the door and window openings, their relation to the wall spaces between them, and the relative size of the building

proper as compared with the width of the driveway included under the same roof as the enclosed building itself. If these few points are carefully considered and studied, it makes little difference whether the building is faced with brick, stucco or clapboards. If scale and proportions are right, the material used for the exterior walls and trim makes little difference. This rule applies to large and small buildings.



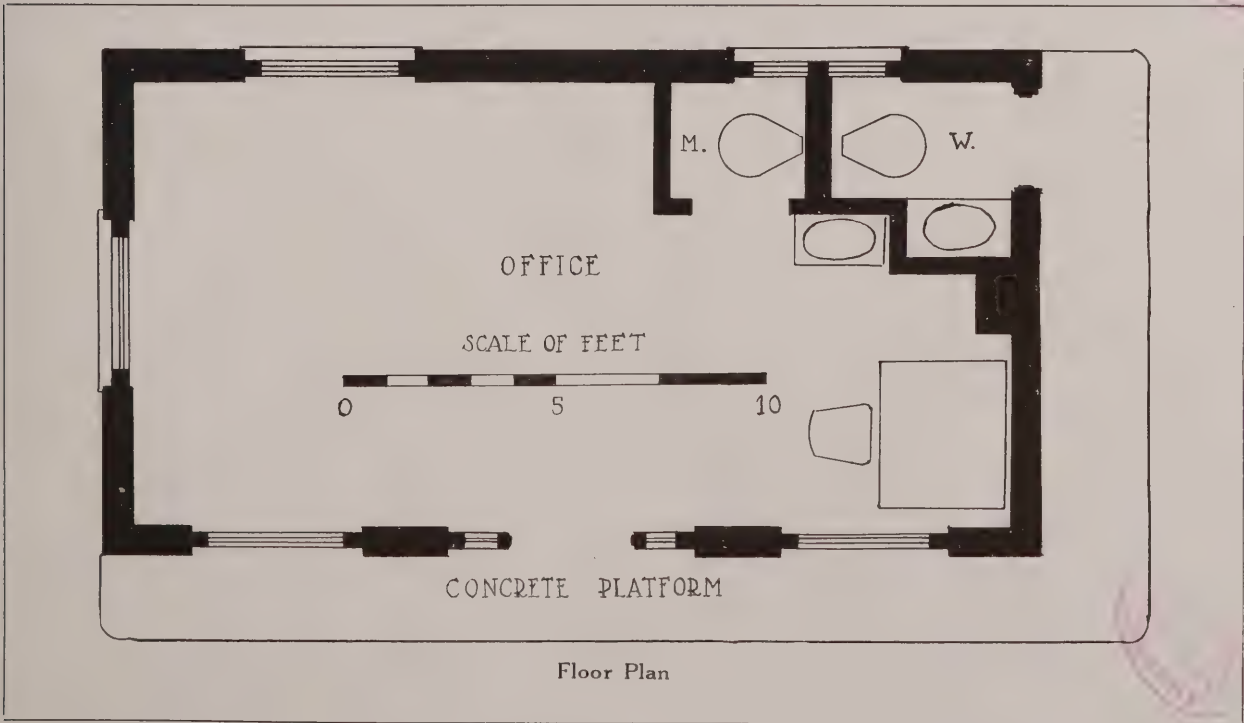
Plot and Floor Plan, Bay Service, Ltd. Filling Station





*Photos, Paul J. Weber*

COLONIAL FILLING STATION, NO. 54, DORCHESTER, MASS.



## FORUM SPECIFICATION AND DATA SHEET—126

Colonial Filling Station, No. 54, Dorchester, Mass.

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Brick.

## ROOF:

Slate.

## WINDOWS:

Wood.

## FLOORS:

Concrete.

## HEATING:

Hot water.

## PLUMBING:

Two toilets.

## ELECTRICAL EQUIPMENT:

Overhead lighting.

## INTERIOR MILL WORK:

Door frames, sash, etc.

## INTERIOR WALL FINISH:

White brick tile.

## DECORATIVE TREATMENT:

Plaster, tile and brick.

## NUMBER OF PUMPS AND TANKS:

2 pumps and 2 tanks; 2,000 gallons.

## SQUARE FOOTAGE OF BUILDING:

330.

## COST PER CUBIC FOOT:

\$1.73, approximately.

## DATE OF COMPLETION:

July, 1924.

HERE is another example of the use of Colonial detail and precedent in the design of a small filling and service station. Although built by the Colonial Filling Stations, Inc., the character of the

work indicates that someone possessing a certain amount of architectural training and experience must have designed this little building. The windows are excellently proportioned, and the design of the panes

is Colonial in scale and character. The simple cornice supporting the overhanging roof and concealed gutter also shows an appreciation of this style. The introduction of a short balustrade on the ridge-pole, the center pier of which supports a weathervane of old fashioned design, is a rather pleasing method of adding a decorative feature to the roof of so small a building as this. Although this balustrade serves no practical purpose, it does add height to the building as a whole. The fanlight transom and side lights of the entrance door show Colonial precedent in the design of the muntins, although the side lights are carried down almost to the level of the door sill, a treatment seldom found in doorways of the Georgian period. Had the door itself in this design been solid, divided into six panels as the style requires, the entire front elevation of the building would have gained definite and greater consistency in design. Undoubtedly the two large arched windows failed to supply sufficient light for the office, hence the glass panes in the door, lighting the interior.



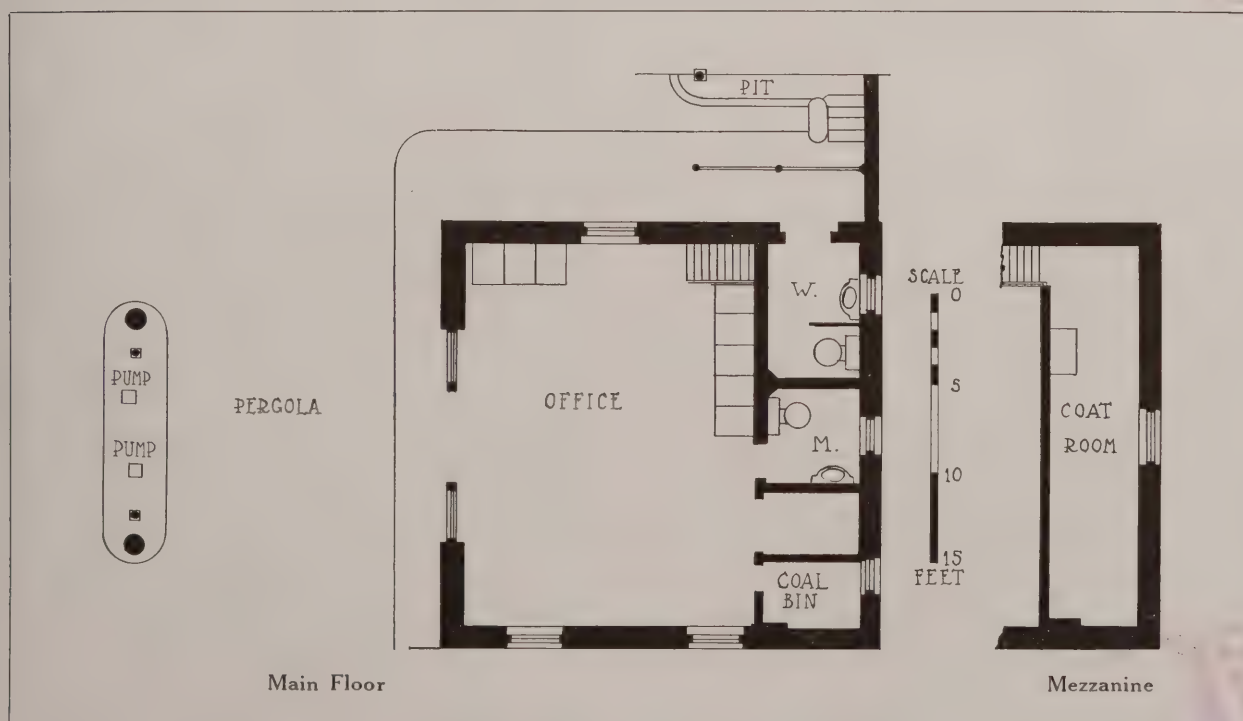
The Entrance Doorway





*Photos. Paul J. Weber*

JENNEY GASOLENE STATION, KENMORE SQUARE, BOSTON  
PARSONS & WAIT, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—127

Jenney Gasolene Station, Boston; Parsons &amp; Wait, Architects

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Waterstruck brick. Clock face in colored tile.

## ROOF:

Copper shingles.

## HEATING:

Hot water.

## PLUMBING:

Two toilets; enameled fixtures.

## INTERIOR MILL WORK:

Pine and plaster.

## DECORATIVE TREATMENT:

Painted.

## NUMBER OF PUMPS:

4 gasolene.

## APPROXIMATE COST:

\$25,000.

## YEAR OF COMPLETION:

May, 1924.

SUGGESTING, perhaps, a Dutch fire engine house, this unusual little building, designed as a service station for the Jenney Mfg. Company, at least shows originality. The high roof and second story, broken by only one window in the rear gable, shows an unusual treatment which is bound to attract the notice of the passerby. The treatment of the covering of the roadway as a sort of *porte-cochere* projecting from the building and not as a part of the roof of the structure itself, is one of the excellent features of this design. The smallest details of this building have been carefully thought out and specially drawn. The posts supporting the covering over the runway, as well as the decorative ironwork which ornaments the top of it, show a careful consideration for details. The single window in the front elevation above the entrance door is filled in with a clock face of colored tile. Gaily decorated shutters flank this false window. Although the introduction of a clock as a part of the exterior design of a filling station is both practical and admirable, it would seem more logical to have placed the clock on an unbroken wall surface. As it is, the clock has the appearance of being an afterthought placed in the upper front window instead of in a more appropriate location. The painted shutters decorated with heavy hardware detract much from the simple dignity of the interesting tile clock face. The little belfry, which is well designed, raises the question of its appropriateness. It would seem that the roof is sufficiently high and heavy to require no finial feature to give added height and importance. Although the belfry is graceful and quaint, its *raison d'être* is open to question. The treatment of the glass screen with center doors and with the combination of light painted mullions and dark painted trim is very effective. Two small round windows, which for some reason do not show on the plan, add interest.

The plan is simple and direct. The greater part of the main floor is occupied by a large office, at the

rear of which are toilets for men and women, a small compressor room, and a coal bin. Above these rooms is a mezzanine, reached from the main floor of the office by a short flight of stairs. This long, narrow space is used as a wash and coat room for the employees of the station. Although the canopy covering the driveway is of proper size and proportion, and sufficiently light in detail not to detract from the building, it must be admitted that a roof sufficiently large to protect a double rather than a single driveway would be preferable, especially for a filling station located at a point where motor traffic is heavy.



Jenney Gasolene Station, Boston



# DECORATION & FURNITURE

## The Elaborate and the Simple in Design

By CARROLL BILL

THE writer of these paragraphs is in no sense a keen advocate of the much-abused cult of simplicity, neither holds he any brief for over-elaboration of any of the phases of artistic expression; but when all is said and done, it is from the simpler and less elaborate types of furniture and architectural detail that we really derive our more lasting pleasure and satisfaction. This statement may be open to challenge, and we admit to any degree of inspired exaltation from the intricacy of East Indian stone detail, the flamboyancy of French Gothic, or the studied freedom of Louis XV carving; but why is it when we have before us some bit of a turned leg table, brown and smooth with age, or a wide, low-seated chair of maple in its own golden honey color, or even the gray silver of a pewter platter, severe to the last degree, why, I ask, do we feel that quiet thrill of satisfied content that goes with open fires and wide board floors and many-paned windows with snow drifted in their corners, showing white triangles against the black of outside night? It is perhaps due to that latent urge that we all have toward the early home life and its associations with the primitive aspect of all manner of things, and in this particular case the artistic expression is shown by simple people in creating simple things for their own simple needs in their homes.

It is, however, the versatile mind and skilled hand working together to create some elaboration of design that command different degrees of our admir-

ing respect and that make us wonder how it all happened; and how, for example, there came into being the crisp luxury of Chambord, the brown cascade of a certain *retablo* in the Azores Islands, 70 feet high, of rippling carved walnut, or the finely balanced detail of a Louis XIV table, all dull gold foliage and intricate mouldings. All of which, while admittedly an acknowledgement of the fitness of these elaborate things of the world to their own environment, is no admission of their artistic superiority, and no claim is made for the opposite extreme, and no excuse offered for the existence of such degrees of simplicity as that exemplified by modern "Mission" furniture or by any other unintelligent economy of artistic expression. What we shall try to show by studying contrasting examples of the same kinds is how the simpler things give us a quieter and more enduring, more complete satisfaction.

In the illustrations of this comparative discussion we have chosen in most cases not the extremes of either type, but rather a happy selection of average examples such as one might come across in any well balanced collection, public or private, and the first contrasting group which is offered shows two French tables in Figures 1 and 2. The Louis XIV example is not as elaborate as some others of its period, but it shows in its curving legs and florid center ornament a degree of unrest that does not harmonize with the apparent weight of its marble top, requiring, as it does, the extra support of two iron rods



Fig. 2. Simple French Table. Contrast with That of Fig. 1, on Page 59



Fig. 10. Early English Gothic Draw-top Table. Contrast with That of Fig. 9 on Page 58



Fig. 9. Elaborate French Renaissance Table. See Also Fig. 10 on Page 57

which may be seen under the table. The grotesque faces carved on the legs and frame would, we know, follow their owner with their sardonic leer and make its possession a source of unrest! The earlier and simpler type of French table shown in Figure 2 has, to a remarkable degree, a feeling of sturdy strength, and its legs, although eight in number, do not seem too many for the design, because of their finely

turned slimness and proportions. The mouldings of the top and frame are clean-cut and well profiled, and the little touches of crudely carved detail contrast well with the severity of their frames, in fact emphasizing the severity.

In Figure 3 we show a Louis XIV mirror frame, quite elaborate, well designed, and true to the style of the florid luxury of the period of its conception. Its flowing foliated detail is grouped with little regard to repose, and it climbs by the aid of broken curving mouldings to the crowning feature of a large shell ornament at its top. The base is hardly adequate to the weight of the upper part, but as a whole it may be taken as a good example of its kind, typical of its period.

Contrast with this the Italian Renaissance mirror frame in Figure 4. It is sturdily built around a rectangular

opening, which is in itself a restful feature, and the square and straight line are everywhere noticeable. The curves of the broken pediment with its center feature are vigorous and inspiring, and the lower carved member fills the space between the two squares very nicely. The carved detail so sparingly used is of a delightfully crisp type of cutting, and the two caryatid figures at the sides, which could



Fig. 4. Sturdily Built Italian Renaissance Mirror Frame



Fig. 3. A Well Designed Louis XIV Mirror Frame



have been very bad, fulfill their function of support in a delightful way.

We now come to what is perhaps the most extravagant example of florid license in our assortment. The Venetian armchair in Figure 5 to be plausible should be draped with the scarlet of a cardinal's robes and shown against the painted stucco of a palace interior on the Grand Canal, and I doubt if any of our modern Italian interiors could for long suppress its riot of aggressive movement. It writhes and curves from base to seat, but in spite of all this we cannot examine its whole without a sense of fascinated wonder as to how it came to be so. And notwithstanding its bumptiousness, the curving lines flow into one another with a certain feeling of growth that is almost satisfying,—until we see the Florentine chair in Figure 6. This armchair could hold its own in precisely the same sort of environment as that just studied and be quite as appropriate to an atmosphere of gilded ceilings, silken hose and beautiful women waiting in their bowers for the lovers, who almost always



Fig. 1. Contrast This Louis XIV Table with That of Fig. 2 on Page 57

came. This Italian armchair is built in the most logically structural way possible,—vertical supports for the seat, arms and back, relieved by small turned members, and the back frames crowned by carved and gilded leaves,—the only bits of decoration used,

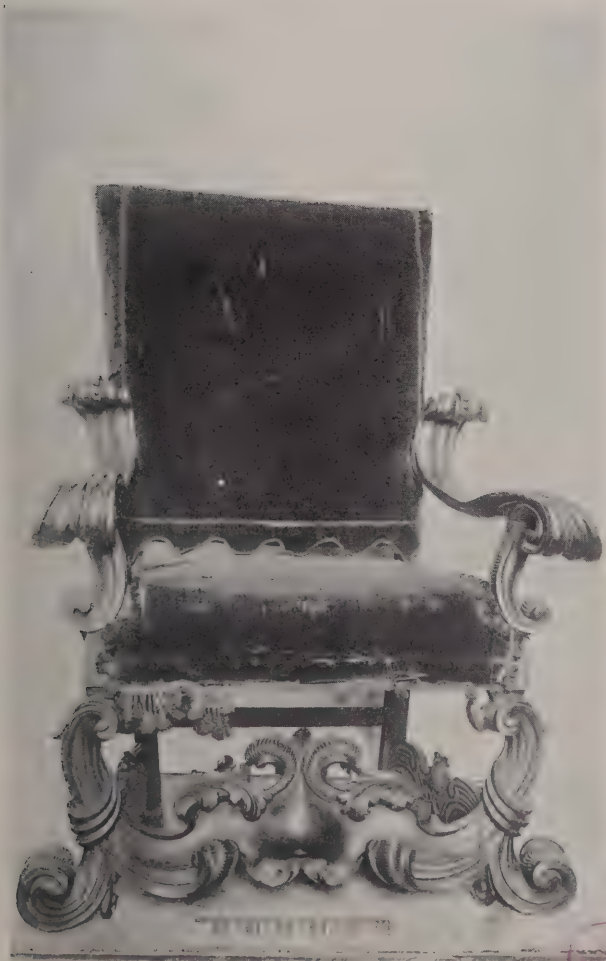


Fig. 5. Extremely Florid Venetian Armchair



Fig. 6. A Simple Florentine Armchair





Fig. 7. French Renaissance Mantel. Contrast with That of Fig. 8

unless we include the tooling and gilding of the leather seat and back. This leather back is fastened up the sides with large nails. At the risk of self-contradiction I confess I should have preferred a more elaborate and gilded nail head. They would have looked well against the rich brown of the old leather. However, this Florentine chair is so satisfying that we cannot criticize so small a detail, and it is easily preferable as a fireside companion to the elaborate Venetian example which was just studied.

For variety's sake we show, to further make our point in favor of simplicity, two chimneypieces. Now the chimneypiece, or mantel, whichever you may care to call it, is a most intimate item of our home life. It is where we assemble our household, or, lacking one, where we ensconce ourselves in whatever degree of comfort our furnishings permit. Let us assume, for illustration, that we can ease ourselves into a deep winged grandfather's chair that keeps the cold from our backs and gathers the genial glow of the fire where it does the most good. Could you imagine for a moment any sensation of comfort or thrill of cosy satisfaction if confronted with the oppressive elaboration and over-use of ornament of the French Renaissance mantel shown in Figure 7? Its exquisite detail is worthy of study, its massing and grouping of pilasters are agreeable, and the crisp execution of the arabesque motifs is quite lovely; but we doubt if one could have from it the joy of the home feeling and comfort of living that is so very evident in the Georgian mantel in Figure 8, with every suggestion of English luxury.

And to be fair to the other side, this example is by no means as simple as might have been chosen, with its delicate relief ornament and pleasing thinness of moulding and paneled pilasters. It was the chief ornamental feature of a room of stately proportions, with moulded wainscot and base and in all probability deeply splayed windows with paneled shutters and mahogany doors. But moderately elaborate as it is, it answers our purpose of affording favorable contrast with the first mentioned assembly of sculptural detail and excess of intricate ornament.

In Figures 9 and 10, two tables are shown. The first is an elaborate and very fine example of the French Renaissance, designed under Italian influence and probably carved by Italians. The whole table has a tremendously vigorous feeling, and the detail has a freshness or swing to it that is a joy to behold. The mass of the ends is adequate in outline, and its base functions properly in holding up the well disguised weight of the top. Altogether it is a masterpiece of design and execution, a fine piece of its period. It is bold, vigorous and well handled as to scale.

In contrast as divergent as could well be imagined is shown the crude early English Gothic draw-top table, the charming simplicity of which could not be bettered from the viewpoint of homely, livable desirability. It is a board about which you would delight to gather your friends and rim your pewter tankards and spill your ale (if you had any) and scatter pipe ashes regardless of finely finished wood, and its clever scheme of extending its top to welcome more guests adds to its air of convivial hospitality. This table has a lowly relation in the shape of a bench, which also has all the attributes just mentioned, and the two make a group of furniture that well agrees with the livable atmosphere of a livable home. And for some reason this last mentioned contrasting pair seem to more clearly illustrate our contention in favor of simplicity than any of the other pieces and make us feel quite content in that our point is well made, and that the fair-minded reader will agree that for home environment and intimate enjoyment the simple things are best.



Fig. 8. A Delicately Pleasing Georgian Mantel



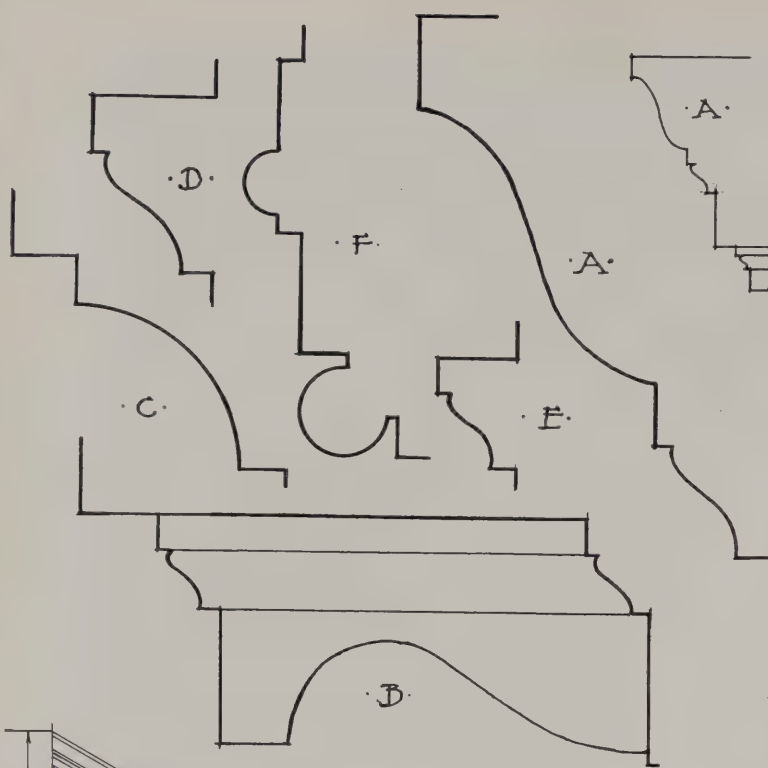


SPRING HOUSE, GOODLOE-HARPER ESTATE, ROLAND PARK, BALTIMORE  
BUILT ABOUT 1790. ARCHITECT UNKNOWN

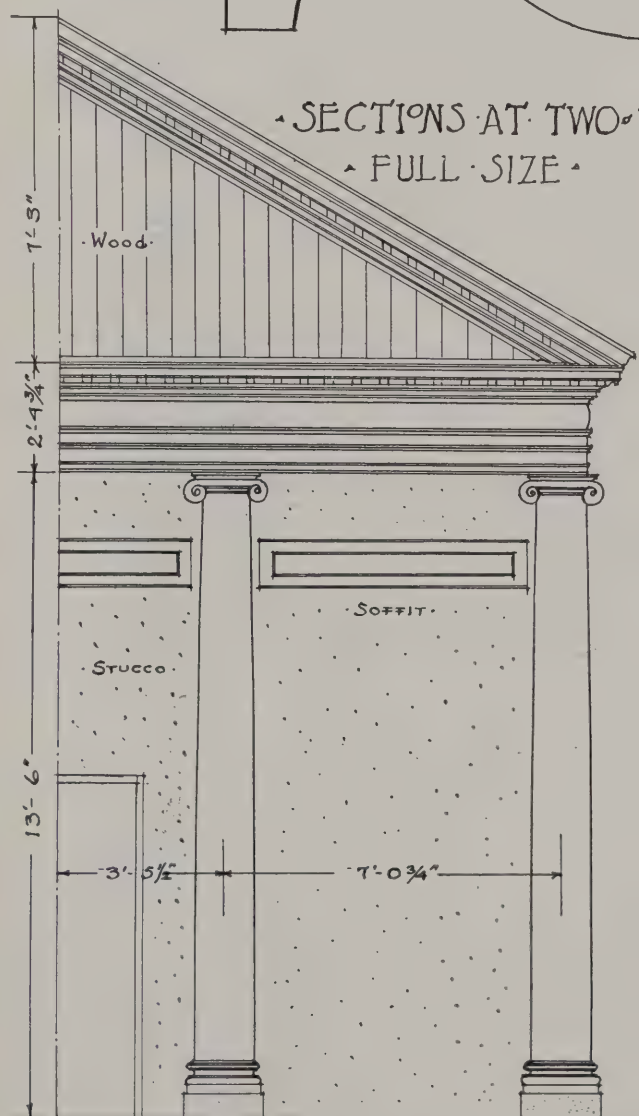
THIS charming old spring house stands on what was formerly the Goodloe-Harper estate, now a part of Roland Park. The manor house was destroyed by fire a number of years ago, and this small out-building is the sole reminder of what was in colonial times one of the show places of Mary-

land. The spring house stands alone, wholly deserted.

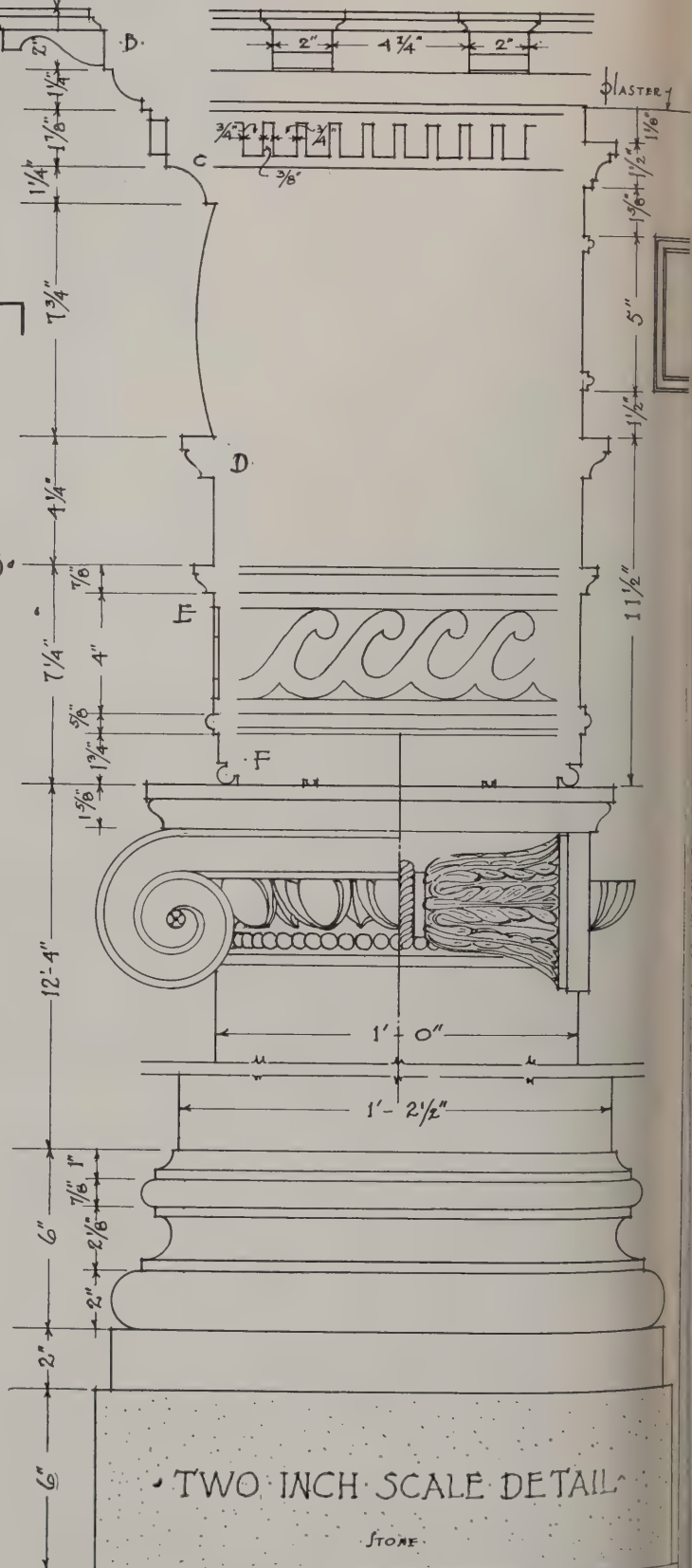
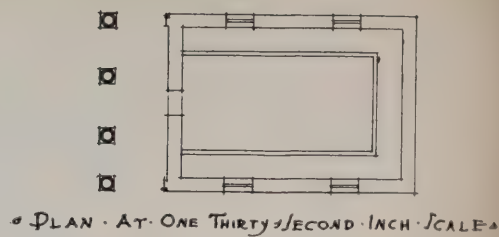
The proportions and detail show great refinement, and the carved capitals are very well executed. The tympanum was undoubtedly originally stuccoed, but no effort has been made to keep the building in repair, and it is gradually falling a prey to the elements.



SECTIONS AT TWO-THIRDS  
FULL SIZE



ONE HALF INCH SCALE ELEVATION



TWO INCH SCALE DETAIL

STONE

SPRING HOUSE · GOODLOE · HARDER · ESTATE ·  
ABOUT 1790 · ARCHITECT UNKNOWN ·

MEASURED ·  
& DRAWN BY ·  
RIGGIN · DUCKLE



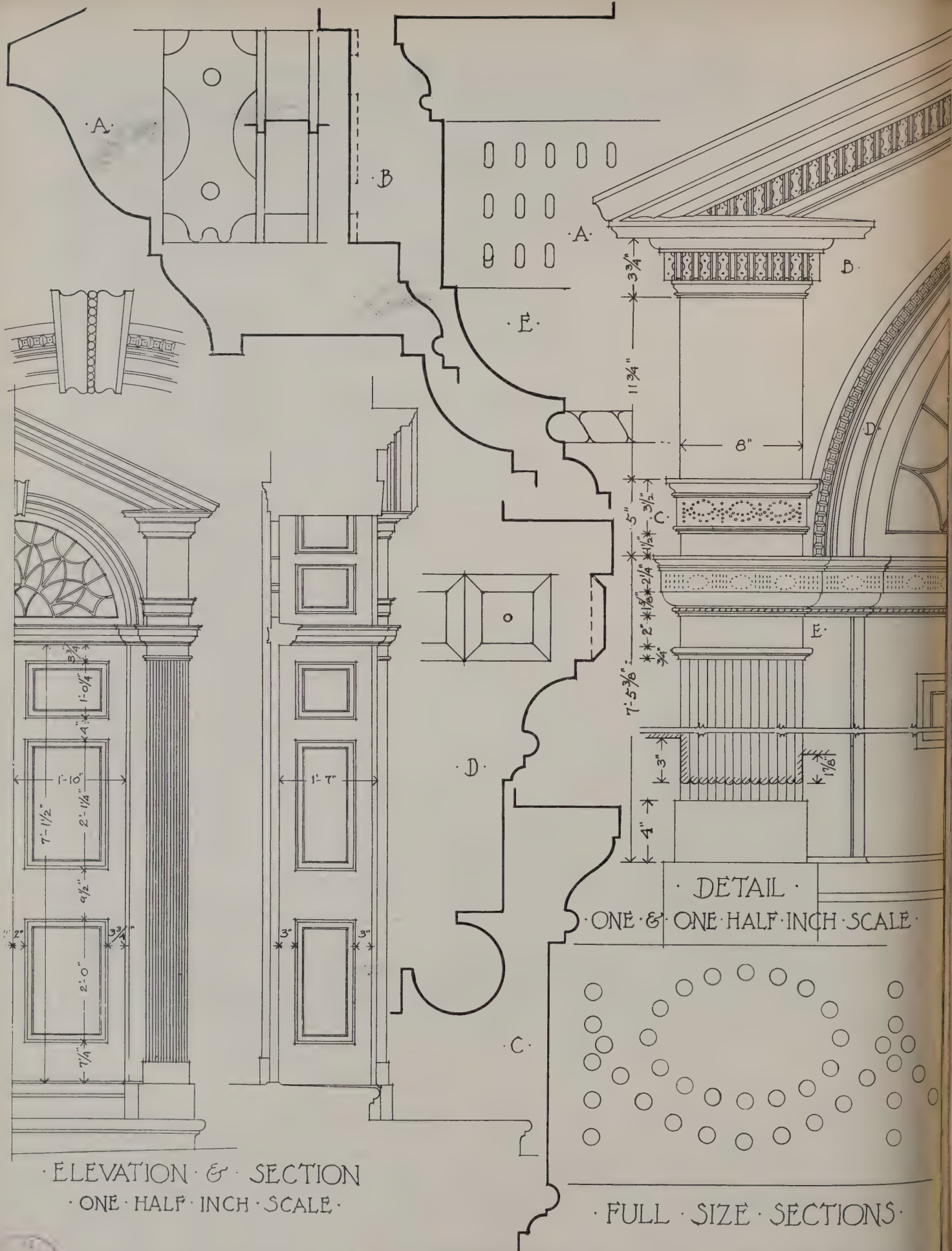


DOORWAY, THOMAS HOUSE, NEW CASTLE, DELAWARE

BUILT IN 1801 BY CHARLES THOMAS

THE doorway of the Thomas house at New Castle, Delaware, is of the conventional type of the declining Colonial style. The proportions and detail are excellent, the latter showing the same fineness of scale and minuteness of design found in the mantelpieces and interior trim of "Homewood."

The semi-circular overhead light shows a very original design carried out with wood muntins. Doorways of similar design occur on the street sides of this house, which stands on a corner. Built in 1801 by Charles Thomas of Maryland, it is now used as the parish house of the Episcopal church.



DOORWAY · THOMAS · HOUSE ·  
BUILT · 1801 · NEW · CASTLE · DEL ·

MEASURED &  
DRAWN BY  
RIGGIN · BUCKLER





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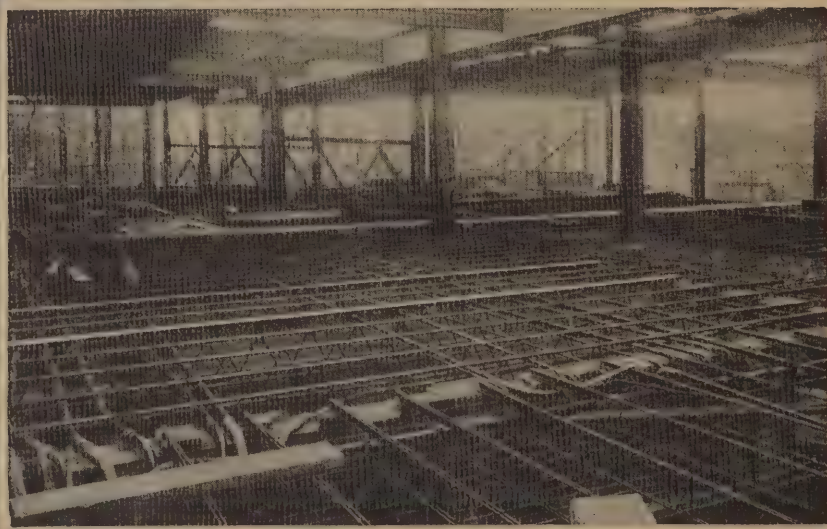
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THE SANDUSKY CEMENT COMPANY, CLEVELAND, OHIO

Manufacturers of Medusa Non-Staining White Cement, (Plain and Waterproofed); Medusa Waterproofing (Powder or Paste); Medusa Gritty Cement (Plain and Waterproofed); and Medusa Cement Paint.

# MEDUSA





Massillon Steel Joists in place in Senior High School, Pawtucket, R. I.  
Robert Manahan and Robert Mickie, Architects; Cruise Construction Co.,  
Contractors. Note all plumbing and conduits are installed within the floors.

**N**EARLY every building you design has walls of fireproof materials. When you span those walls with combustible floors you not only nullify the fireproof qualities of the walls but violate the trust placed in you by your clients. They expect you to guard their interests and to see they get the best construction possible for the available funds.

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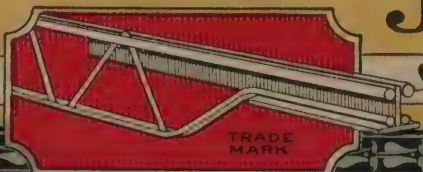
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THIS illustration is used in one of a series of advertisements appearing in magazines of national circulation to impress upon home builders the waste entailed through the use of corrodible metal where Copper, Brass and Bronze serve more economically.

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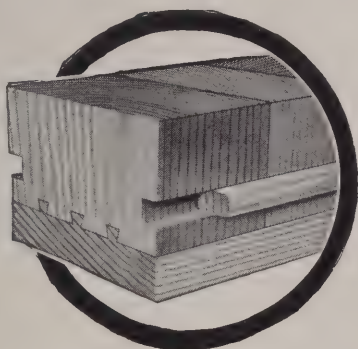
# A Statement

THE block floor in Carnegie Institute Gymnasium is not Bloxonend. This statement seems necessary because of erroneous statements coming from the Institute.

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Bloxonend is exceptionally durable, safe, resilient, non-sliver and non-slip. It stays smooth always.

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These 8 ft. sections make a tight, smooth floor—no loose blocks.

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# for WALLS



*Residence of F. B. Hitchcock in one of Chicago's Lake Shore suburbs. Architect, R. E. Crosby*

*Harmonizing with the general interior motif and subtly emphasizing interesting effects is the plastering which was done with Beaver American Plaster*

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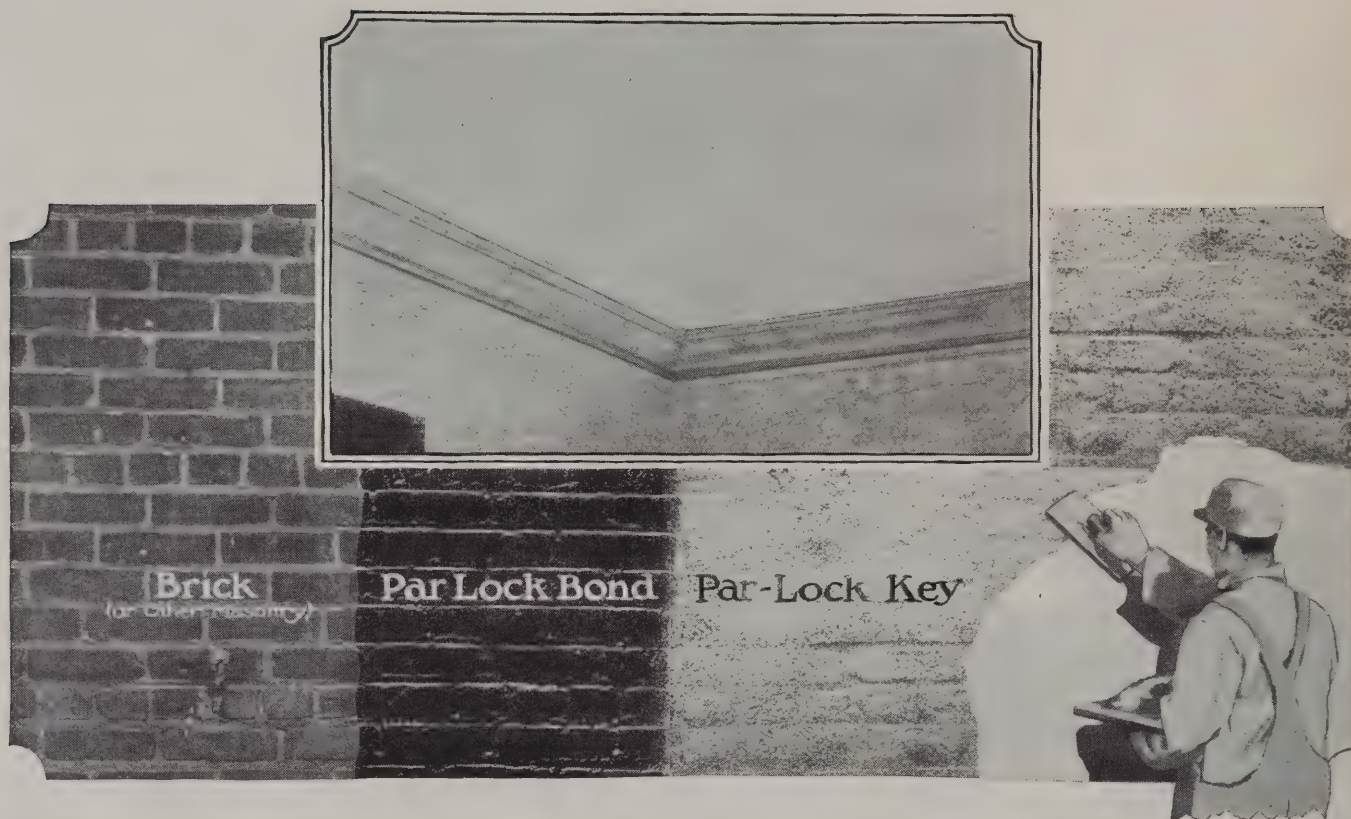
creasing; and, as a result, new architectural importance is being attached to the interior effects that can be obtained by the judicious utilization of plastering.

It is interesting, in this connection, to note that the makers of Beaver American Plasters, conscious that good plastering must start at the very source, go to great lengths to produce plaster of real dependability. The reason, no doubt, why the definite specification of particular Beaver American Plasters by the architect is a growing tendency.

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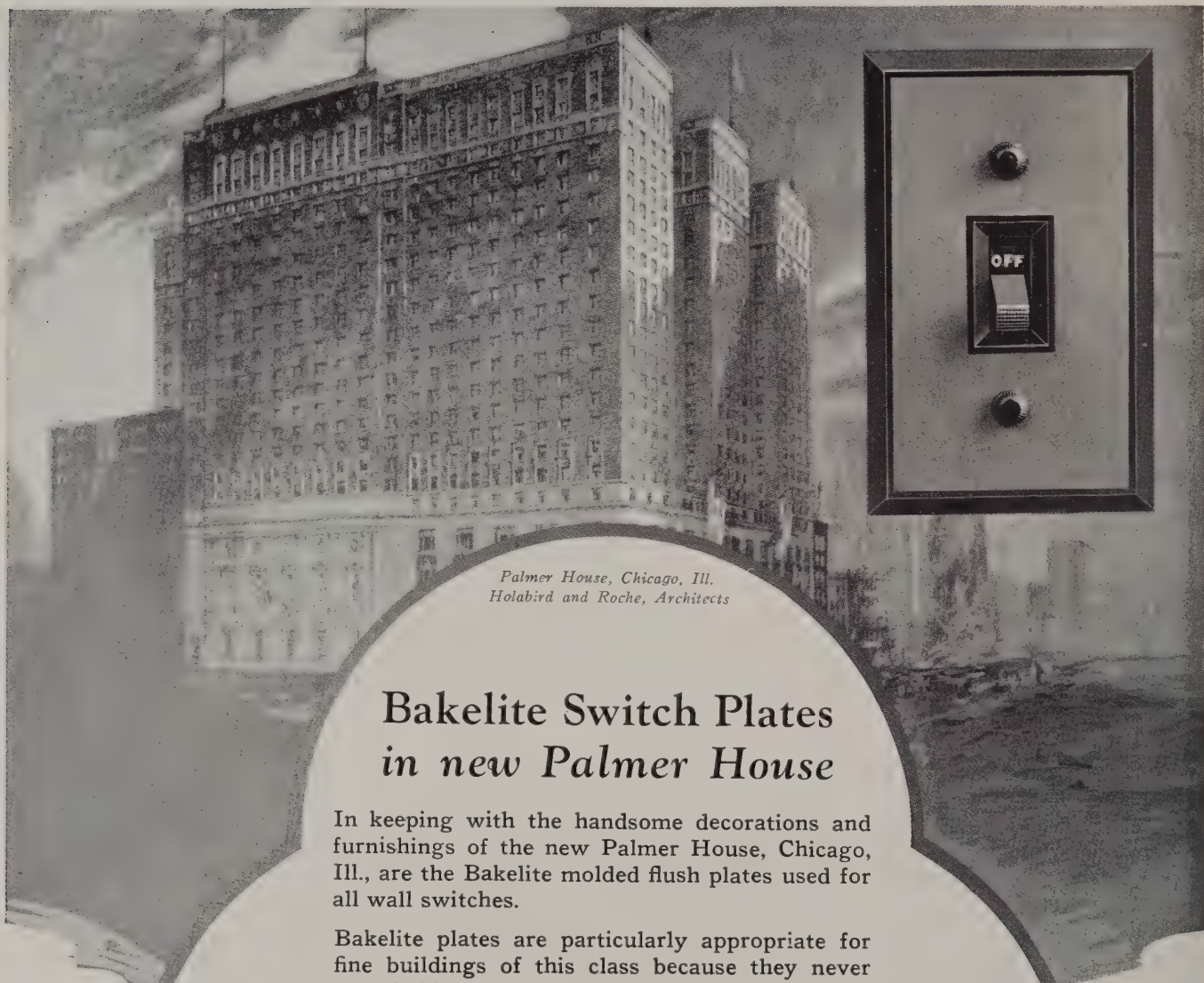
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THE NATIONAL COUNCIL FOR BETTER PLASTERING  
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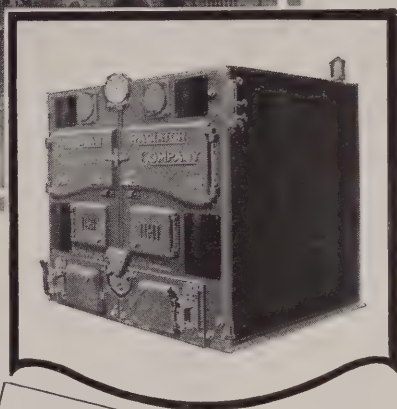
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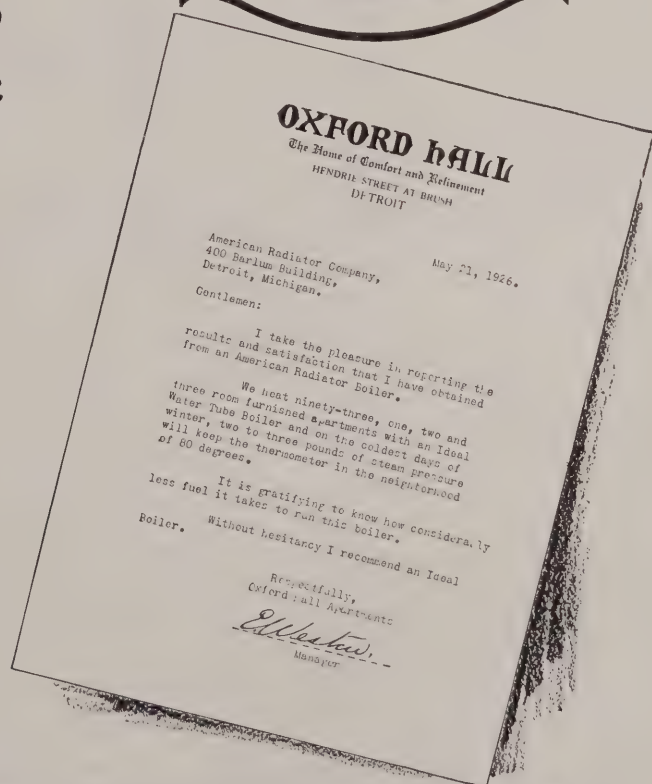
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**A**N architect does not specify Mount & Robertson Office Partitions without a knowledge of their value.

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**I**F NO doors or windows were needed within the office, it will probably be cheaper to subdivide it with plaster walls than to use Circle A Partitions.

It is self-evident that any layout calls for doors into the various divisions, and in almost all offices it is necessary to make use of borrowed light.

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Circle A Partitions are sectional and movable, and can be rapidly erected to make any desired arrangement. You can use them over and over again, and change the office layout to meet the constantly changing needs of business.

They also bring to the office the handsome appearance, fine woodwork that can only be achieved by master craftsmen with modern tools, working in fine woods.

We will gladly send our new catalogue to anyone interested.

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# CIRCLE PARTITIONS

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# BOOK DEPARTMENT

## The Splendor of the Romanesque

A STUDY OF THE TYPE IN ITALY

MANY a student of architecture, dazzled by the rich and severe beauty of Greek and Roman forms, absorbed in the mystery of the Gothic age, or carried away by the brilliance of the Renaissance or the types which have sprung from it, fails to give more than casual interest to what to other students is more interesting than any,—the Romanesque, as it was developed in western Europe during what may be roughly described as the two centuries from 800 to 1000 A. D.

The world during the ninth century and the tenth was obsessed with the belief that the year 1000 would see the end of all things as foretold by the Apocalypse. When the mystical year had passed and the world still pursued her wonted way, there came a powerful renewal of interest in things earthly, art and architecture being by no means overlooked. There had been another reason for this renewed interest. The reign of Charlemagne, giving promise as it did of a Europe once more united and powerful, had renewed faith in Rome as the predestined center of the world and had tended to again spread over Europe the belief that from Rome should emanate the animating force necessary for invigorating and once more renewing the earth.

The type of architecture which arose during this era and which is called "Romanesque" forms the subject matter of the volume under review. Among the characteristics of the style a few may be briefly mentioned: (1) wide use of the round or semi-circular arch; (2) walls of brick or of stone given a more or less smooth surface, or else built of alternating courses of brick and stone; (3) use, particularly at doors, of columns free-standing or engaged, clustered shafts or half-rounded piers from which round arches were made to spring; (4) placing of small arched windows in groups of two, three or more resting upon slender colonnettes, the entire group often set within a single larger blind arch; (5) much use of corbels, corbel tables, or pilaster strips upon which (particularly upon outer walls) members forming blind arches were placed; (6) use of the rose win-

dow, a detail which during the Gothic era was to receive treatment incomparably magnificent; (7) a wide use of ornament derived from Byzantine sources, particularly in the form of carving on capitals, *voussoirs* and spandrels. Many parts of Europe felt the stirrings of this revitalizing influence upon architecture, and particularly of

an incomparable beauty was and still is the Romanesque of Italy which is discussed here.

In this volume there is given a presentation of what yet remain of the Romanesque structures built in Italy, a country which made wide use of Romanesque forms long after the rest of Europe had been committed to the use of Gothic. The time when they were built antedated the era of building great city palaces and country houses, and building was largely or rather chiefly in the form of churches, the plan of which was ordinarily that of the primitive basilica (often with an *atrium*), a semi-circular apse forming the east end of the nave and often of each of the aisles. Circular churches were not unknown, and extensive use was made of the *campanile*, sometimes joined to the church and sometimes standing alone. Added to the richly decorative use of



Side Portal of a Church in Cagliari  
Romanesque of the Thirteenth Century

Romanesque forms for the buildings themselves a use supremely rich was made in fashioning details of interior furnishings, parapets to screen choirs or chapels; *ambos* or pulpits; fonts and episcopal thrones; paschal candelabra; altars and their *baldachinos* and other accessories.

A work of this scope is necessarily largely of illustrations. This volume, apart from some 27 pages of excellent text, is entirely of half-tone illustrations selected with a view to widening the practical application of the Romanesque style. The mere selection of subjects for illustration from the vast number available proves the author possessed of taste of a high order. The volume constitutes a valuable addition to the data regarding an architectural type of importance to the modern world.

ROMANESQUE ARCHITECTURE IN ITALY. By Corrado Ricci. 260 pp., 9 x 11½ ins. 350 illustrations. Price \$10. Brentano's, Inc., 2 West 47th Street, New York.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM



## HOUSE & GARDEN'S Second Book of Interiors

EVERY little while a new volume is added to the HOUSE & GARDEN series, which deals with houses, their exteriors and interiors, and their gardens. In this, the latest and by far the most helpful and stimulating of these volumes, there has been collected the very best of the invariably excellent matter which has appeared in HOUSE & GARDEN during the past year or two. It is a volume valuable alike to the architect, the interior decorator and the home owner, as well as to the large number of people casually interested in interior decoration.



SEVEN hundred illustrations deal with every department of the house,—entrance porches, vestibules and halls; reception and living rooms; libraries, dining rooms and kitchens; stairways; bedrooms and bathrooms; verandas and terraces, all these illustrations presenting the most perfectly planned and beautifully arranged examples, the greater part of which are of distinctly moderate cost. Other departments deal with color schemes of which a great many are suggested; with accessories, such as bookcases and built-in bookshelves; lamps and lamp shades; mirrors and other details of furnishing; and one section is given up to illustrations and text which make entirely plain the types of furniture of the different historic periods.

*It would be impossible to over-emphasize the value of this work to anyone interested in its subject.*

223 pages. 9¾ x 12¾ inches. Price \$5.

**ROGERS & MANSON COMPANY**  
383 MADISON AVENUE, NEW YORK

THE DEVELOPMENT OF AMERICAN ARCHITECTURE. By Joseph Jackson. 230 pp. 5 x 7½ inches. Price \$2.50 Net. David McKay Co., Washington Square, Philadelphia.

WHATEVER may tend to increase popular appreciation of architecture, and especially whatever may tend to deepen appreciation of the great heritage of early American architecture and the work of individual architects who worked prior to the middle of the nineteenth century, is to be sincerely welcomed as a contribution of value. "The Development of American Architecture," by Joseph Jackson, a volume just issued from the press of the David McKay Company, of Philadelphia, is a useful addition to the literature already published dealing with the field just indicated. In the 214 pages of text with 50 half-tone illustrations, many of which are reproduced from old prints and drawings, the author pleasantly discusses the story of American architecture between the years 1783 and 1830.

The chief value of the book lies in the stress it places on the work of Benjamin Henry Latrobe, Robert Mills, William Strickland, Robert Carey Long, John McComb, Jr., Major L'Enfant and others whose names are too often forgotten when American architecture before 1830 is under consideration. Latrobe, McComb and L'Enfant, it is true, are something more than mere vague memories to a great many people; but Mills, Strickland and Long and the work they performed are in danger of sinking into an undeserved oblivion even among those who should have a reasonable acquaintance with the architectural annals of the country. By their personal labors all these men profoundly influenced the form and substance of American building, and not only in their own day and generation, for they also left an indelible impress upon the development of national architecture that can be clearly traced down to the present day. Many of the buildings they designed have unfortunately been demolished, but enough remain to afford important links with the past, and the authorship of these monuments should not be a matter of indifference. Mr. Jackson has told the story of these architects and of the buildings they erected in a way likely to remain in the memory.

Another admirable feature of Mr. Jackson's little volume is to be found in the clear manner in which he has pointed out the different phases of building development that were going on simultaneously in the several parts of the country. One of the most illuminating chapters dealing with this sectional growth and the local peculiarities manifested is devoted to the building of Washington. In discussing the popular attitude of the time towards the proposed creation of the federal capital, the author observes that "there were backward-looking persons in those days as well as in these, who wanted to harass progress. They were alarmed at the proposed size of the new federal district, which was to be ten miles square." But Washington pointed out that "if the metropolis of Pennsylvania (Philadelphia) occupied a tract two by three miles, the extent of the federal city was none too large."

Major L'Enfant's connection with the planning of Washington is generally known, and a great many are acquainted with the fact that he was never paid for his labors, as he indignantly refused the inadequate sums voted by congress. In alluding to the difficulties created by the temperamental Major's own attitude, Mr. Jack-



son says: "It is unfortunate that L'Enfant was so impatient and domineering. He had trouble from the start, because he began to act upon no authority but his own, and actually demolished the house of a respected resident of Duddington, both against the owner's wishes and without authority from the commissioners under whom, by law, he was serving. His best friend, President Washington, was compelled to tell him in exact terms that he had disobeyed the law and would have to take the consequences. He told him that he must work with the commissioners. Even to this advice of a friend and the chief personage of the country, L'Enfant was deaf, and continued his work defiantly. Washington recognized his worth to the country, but he wrote to the commissioners after the Duddington incident: "You are as sensible as I am of his value to us. But this has its limits; and there is a point beyond which he might be over-valued." Finally the President was forced by his continued defiant and unlawful acts to dismiss the French engineer. The latter continued to live in this country, but withdrew himself and nursed his grievance. Throughout he had acted as a spoiled child, and would brook no interference. The book is full of such intimate and elucidating sidelights. There are also valuable comments on the dawning recognition of architecture as a necessity.

**VERSAILLES; ITS LIFE AND HISTORY.** By Cecilia Hill. 243 pp. 4¼ x 7½ inches. Price \$2.50 Net. Little, Brown & Co., Boston.

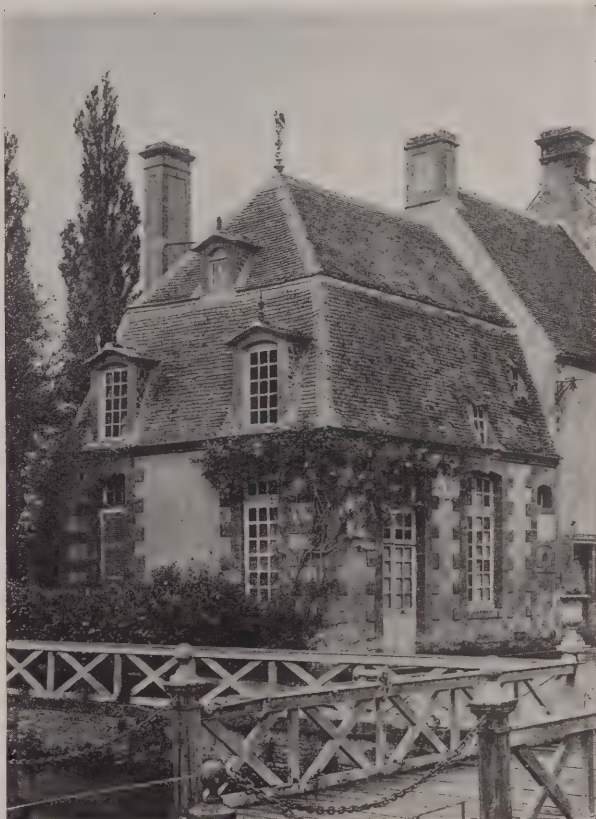
OF books about the Palace of Versailles there may well be no end, perhaps because the kingly dwelling begun by Louis XIII and brought to completion by the *Grand Monarque* may be justly regarded as France in epitome during the seventeenth and eighteenth centuries, and the life of Versailles as the quintessence of French life and history during this period. The whole architectural, artistic and social life of France found its focus, indeed, at Versailles from the time that Louis XIV started on his magnificent building career until the dark days of the French Revolution ended an era of dazzling splendor altogether unparalleled.

At all events, however one may regard Versailles historically and socially, it cannot be denied that the fabric alone is an inexhaustible storehouse of interest. The authoress of this book of 235 pages, embellished with numerous half-tone illustrations, has performed an invaluable service in giving a most carefully detailed and admirably arranged history of the building, noting all the successive changes that have taken place. Not only has she done this in the most lucid and logical manner imaginable, but she has also contrived to remove the subject from the realm of dry-as-dust data and statistics and infuse into it an enormous amount of human, personal and historic interest, so that the different chapters are not merely records of materials and dimensions, which one reads and straightway forgets, for the facts are so interwoven with personal incidents and anecdotes that they fix themselves quite indelibly in the memory. The Palace of Versailles is peculiarly the outward manifestation of *Louis-le-Grand's* personality, the abiding memorial of his hopes and aspirations, his triumphs and failures. Since this is so, no one can hope thoroughly to understand the building without knowing something of the man who called it into being and who imposed his personality and ideals upon the architects and other artists who worked for him, not merely in a perfunctory,

## FRENCH PROVINCIAL ARCHITECTURE

*A Constructive and Practical Work on  
Minor French Buildings*

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SOME of the most graceful and distinguished architecture in the world exists in French provincial towns, small villages and in tiny hamlets which cluster about the great chateaux—small manors, half-timber cottages, shops and buildings of other kinds. Much of this wealth of design is applicable to American use—the exteriors largely for suburban or country houses, and the interiors for residences or apartments. The authors, with unerring architectural taste and judgment, have selected just those details which possess proportions and suitability for present-day use. The volume contains illustrations, plans and measured drawings worth considerably more than the cost of the work.

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professional manner but with genuine enthusiasm, and aided him to amply realize his architectural ambitions.

In view of this unique condition, the authoress has included a singularly able, fair and sympathetic analysis of Louis' personality and character. In part she says of him: "Louis XIV had two sides, the man and the king—and the king came first. As such he saw himself a divinely appointed intermediary between God and people. . . . As such he was invariably benevolent, measured, great; with an enormous patriotism and sensitiveness for France so that every Frenchman felt the honor of the country to be safe in his hands. He gave a prestige to monarchy unknown before. Never, through all the intoxication of youth and adulation and passion, did Louis XIV forget what was due to the dignity of the crown. Hence the decorum, even in his faults—though he never loved a woman as much as he loved France.

"He could be hard and incredibly selfish in private life, and considered himself placed above the morals of ordinary persons; but then all his subjects shared that view. It was he himself who set the limit to his will—a limit that touched every point of life—his duty as a king. He had an enormous sense of duty. He worked hard for France. Never for any hunting did he miss a council meeting, or neglect a state appointment, or say foolish, indiscreet things or betray a state secret. As a child he was given to violent anger, but only three instances were noted in his later life that he gave way to it. This self-control, this sense of measure and dignity spread even to small things, to dressing, eating, ceremonial, precedence, and it

must be owned that Louis XIV had little sense of humor. . . . Though as a young man he was clumsy, he so schooled his body for the sake of France that majesty and gracefulness seemed natural to him. . . . He kept his body agile into middle age by constant exercise. He had the large Bourbon nose; contemporaries agree he was not handsome as a boy, and he was early pitted with small-pox; still, his profile was one to delight sculptors, and Lebrun turns it to decorative use on his ceiling. In fact he grew 'decorative' in a massive way—what we call *grand siecle*. . . . He could look like a country farmer or like a Roman emperor. Perhaps because of his neglected, lonely childhood he seldom smiled, but when he did, the smile was winning, and his courtesy toward women was invariable; he raised his hat even to a housemaid."

It is refreshing to have an estimate of Louis XIV that is neither a fulsome panegyric nor an unlimited denunciation, an estimate that portrays him as he really was, a very human mixture of good and ill. But it is not Louis alone whose personality is inseparably associated with the halls and *salons* of Versailles. The writer has agreeably traced the many other personal associations with the various parts of the Palace so that we may see Madame de Maintenon, the young Duchesse de Bourgoigne, the sharp-tongued Madame, Louis' sister-in-law, or the queenly Marie Antoinette, each in her accustomed environment. All of this combined architectural, historical and personal subject matter is so pleasantly blended that the book cannot fail to be both useful for reference and exceedingly readable, however one may intend to use it.

## The Practical Book of Tapestry

By George Leland Hunter

THE intimate connection between tapestry and architecture as well as the frequent use of architectural motifs in tapestry design gives to tapestry and its history an interest to architects which is strong. Primarily associated with the Gothic age, which saw what were perhaps the most brilliant of its triumphs, tapestry has been identified with the development of all of western Europe and with the different periods—the Renaissance, early and late; the Baroque age; the eras of the different Louis; and in later days with the various places where looms have been set up and where present-day workers are engaged in creating by use of old-time methods those marvelous weaves which add to any surroundings where they are placed a richness of decoration which confers dignity and splendor to the place where they are used. No study is more absorbing than that of tapestry.



IN this volume is given a complete review of the subject of tapestry. The author has made a deep study of tapestry's history and is familiar with every important example in the world. The volume deals also with the technique of tapestry weaving, the changes and development of its design in different countries at different times, and it goes at length into descriptions of modern looms where this ancient art has been successfully revived. The illustrations, many in full color, add to the reader's interest. All are from photographs made especially for this work, and many show the student for the first time examples of tapestry weaving of the first importance. The volume is particularly valuable by reason of its accurate documentation and full bibliography and because of its giving the names of places where there are to be seen the most important tapestries now in existence.

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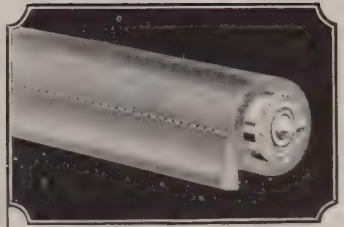
Richly illustrated in half-tone and full color.

302 pages; 6½ x 8¾ inches. Price \$10.

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Left—Bedell Building, Portland, Oregon. George Schonewald, Architect; Hanson-Hammond Co., General Contractors. 510 Columbia Damasko Window Shades on Columbia Rollers are used throughout this splendid structure.

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fixtures, so the light from windows should be transfused and mellowed by modern translucent window shades in *tone colors*.

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# The ARCHITECTURAL FORUM

VOLUME XLV

NUMBER 2

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PARKER MORSE HOOPER, A. I. A., Editor

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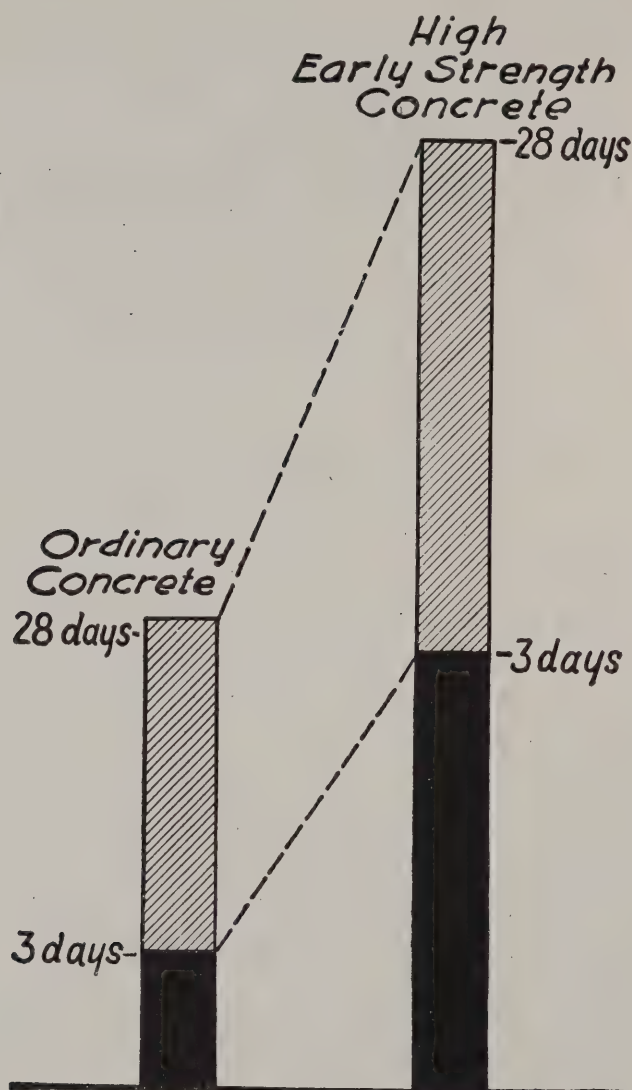
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# THE EDITOR'S FORUM

## METROPOLITAN LIFE'S HOMES

TO present in convenient and concise form the history of its notable effort toward providing a practical solution of New York's "housing problem," the Metropolitan Life Insurance Company issues a brochure entitled "Comfortable Homes in New York at \$9 a Room a Month." The booklet describes and illustrates the blocks of apartments in the Borough of Queens of which Andrew J. Thomas and D. Everett Waid were the associated architects, the Metropolitan's aim being to provide at costs within their means comfortable houses for what are ordinarily known in America as the "working classes."

Two paragraphs from the brochure are of particular interest: "As to the financial results. The final reports as to cost are not yet ready, but enough is known to state that the total investment by the Metropolitan Life Insurance Company will approximate \$7,500,000; that the rentals are over \$1,000,000. Figuring expense of operation at what are believed to be liberal allowances, there seems to be no doubt that a net return of at least 8 per cent will be realized, and it is hoped something more. The Company will credit 6 per cent of this return to interest, and anything above that to the amortization of the cost of the property, expecting thereby to gradually reduce the book value to such a point that when tax exemption expires January 1, 1932, the book value at that time will be such that 6 per cent or more can still be realized upon the investment."

"The lesson to be derived from this experiment seems obvious. It is doubtful if 8 per cent net on cost could be realized, without tax exemption, at a rental of \$9 per room per month; but there is no doubt that an additional rent of \$1.50 per month per room would abundantly provide for full taxes. If, therefore, limited dividend corporations, other life insurance companies and employers of labor desiring to produce apartment homes at the lowest rent possible, with a sure net return of say 8 per cent, would use the same methods the Metropolitan has in this operation, there seems to be no doubt that a maximum rental of \$10 to \$11 per room per month will produce 8 per cent net and pay full taxes, but only if the homes are built on low-priced land, easily and cheaply prepared for building, and with public utilities already provided and fully paid for."

## A CORRECTION

THE June FORUM presented illustrations of the chapels at West Point and at the University of the South, Sewanee, Tennessee. These chapels were, through an oversight, credited to Cram & Ferguson instead of to Cram, Goodhue & Ferguson.

## GOVERNMENT BUILDING PLANS

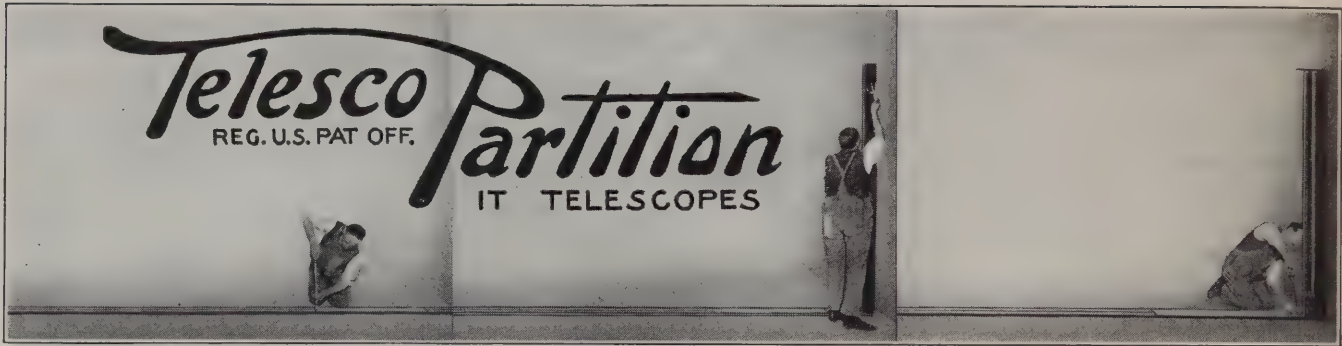
A DISPATCH widely published in the New York press during June gives some account of the plans the government contemplates taking to stabilize the building industry during the next few years. The government building program contemplated in the authorization of congress of expenditures aggregating \$165,000,000 over the next six years will be manipulated by Secretary of the Treasury Mellon to offset any general financial depression or threat of unemployment. Government operations will be expanded in lean years, and held down in full years of private construction. The building industry is regarded as the keystone in the industrial arch because it has so many related and dependent lines, including the lumber, cement, stone, gravel, iron and steel, plumbing supply, roofing material, and other industries. It is almost always the first industry to reflect spreading unemployment.

Building operations were practically stopped during the war. Private building was quickly resumed, and has been going on with a rush since 1921. The government is just about to resume. It is considered in some economic quarters that building has reached its peak and that a sudden downward plunge would inevitably bring unemployment.

## DEATH OF C. W. RAPP

THE demise of C. W. Rapp, senior member of the firm of C. W. and George L. Rapp on June 28 after a brief illness, came as a shock to a wide circle of friends. Born in Carbondale, Ill., he built up a large architectural practice in Chicago, where among the many important buildings attributed to him are the Uptown, Chicago, Tivoli and Riviera Theaters and the Masonic Temple building, in which is incorporated the Oriental Theater, recently opened, and the new Detroit Theater, in Detroit. Mr. Rapp was in fact, regarded as an authority on theaters, particularly motion picture theaters, and to his foresight and energetic leadership is due a great part of the credit for the improvement which has been made in the designing and planning of these buildings.

Nor was Mr. Rapp's work wholly connected with theater buildings. The new Paramount Building, now under construction in Times Square, New York; the National Press Building, under construction in Washington; the new Detroit Hotel, and the Metropolitan Office Building in Detroit, and various other large and important building projects in St. Louis, Cleveland, Buffalo, Kansas City and Milwaukee were of Mr. Rapp's design. Under Mr. Rapp's guidance his firm attained a position among those of the first rank in Chicago and the middle west.



Grooved floor strip screwed to floor.

Scribed wall board fits uneven wall.

First door post screwed to floor.



Second door post set.

Section fits in groove of floor strip and post.

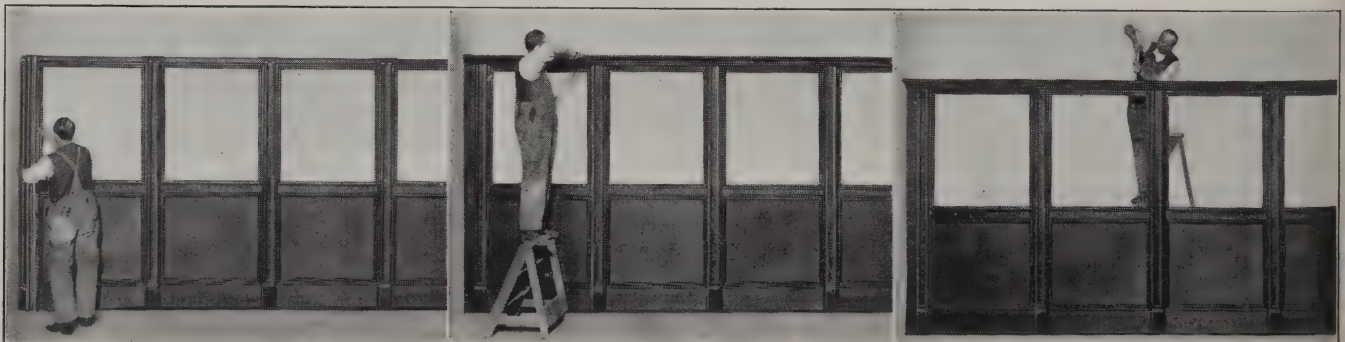
Next post set and screwed to floor strip.

HERE are the twelve important operations in the erection of Telesco Partition. Because it is *screwed* together and not nailed, it can be taken down as easily as it is erected and moved to any desired location. The extension top takes care of different height ceilings. Write for details.

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Last post fits to scribed wall board.

Screw on crown moulding.

Screw coupling irons to stiffen partition.



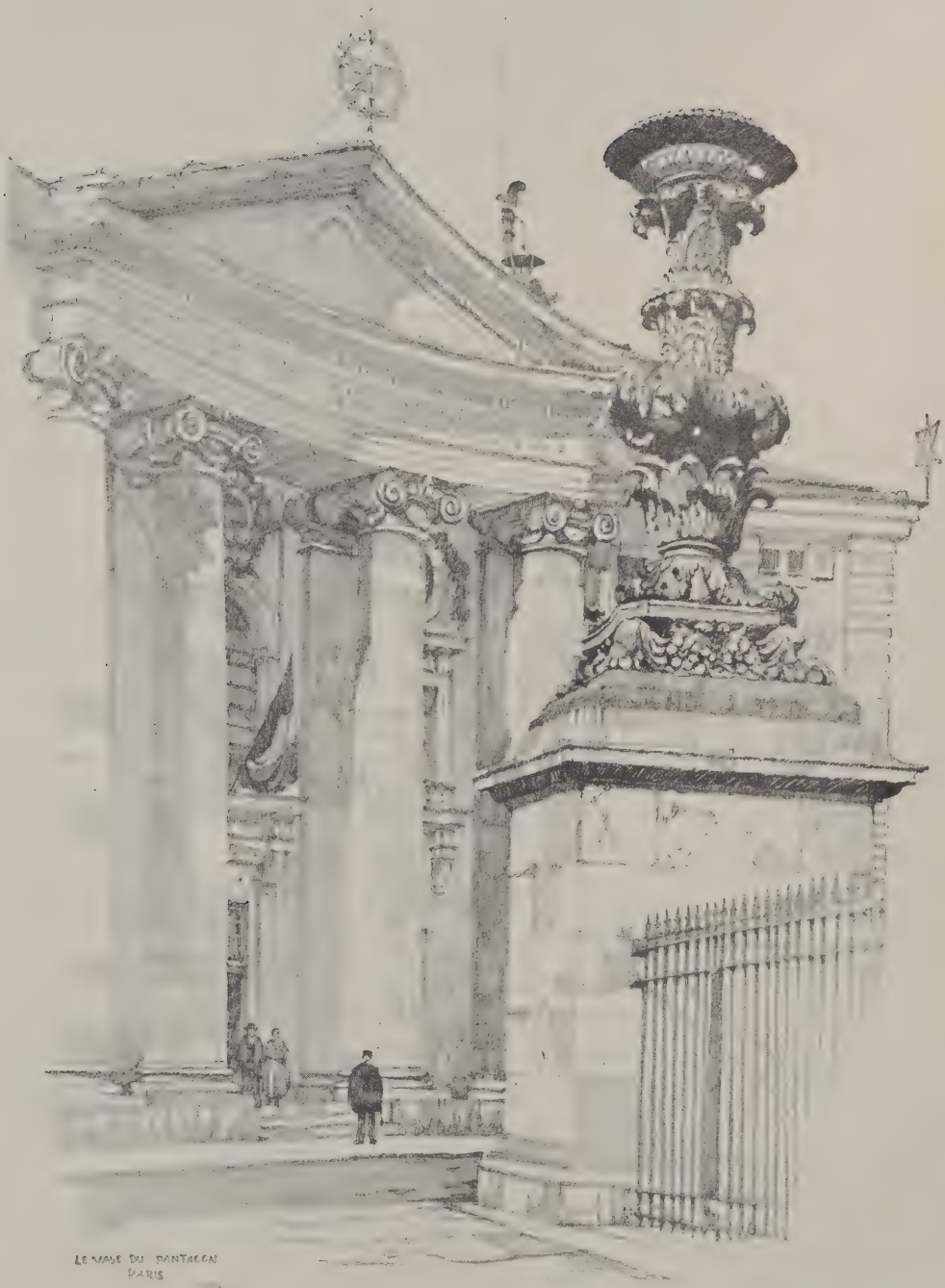
In ceiling partition fasten strip to ceiling.

Raise and fasten extension posts.

Fasten filler strips and attach crown mould.







LE MUSE DU PANTHEON  
PARIS

ENTRANCE TO THE PANTHEON, PARIS

FROM A PENCIL SKETCH BY SAMUEL CHAMBERLAIN



# The ARCHITECTURAL FORUM

Volume XLV

AUGUST 1926

Number 2

## Two Recent London Buildings

By H. J. BIRNSTINGL

THOSE who await the appearance of an architectural style which shall inform contemporary London buildings seem to be waiting in vain. Recently two very large and important structures have been finished by architects of fame, yet it would be difficult to find in them any common quality. Adelaide House and Britannic House, the one by Sir John Burnet and partners, the other by Sir Edwin Lutyens, strike so forcible a contrast that one is led to assume that there exists no common outlook. It must be admitted that the programs for the two buildings are not identical. Britannic House is the headquarters of a single vast and mighty industrial corporation, and thus it contains within its walls a single hierarchy. Adelaide House, on the other hand, is simply a block of separate business offices, so that when once the spacious entrance hall is passed, there lies ahead but a combed hive of offices. This difference is quite clearly expressed in the elevations of the buildings, for, in the one, the windows are graded according to the importance of the rooms which they light (this importance depending upon the position in the hierarchy of its occupant), while the exterior of Adelaide House presents a diapered pattern of windows varying but little in sizes, and not at all in importance. But this difference of programs is insufficient to account for the immense difference in treatment, and one can imagine the historian of the future being sorely perplexed in his attempt to disentangle the architecture of today with all its variations.

In architecture, as in literature and the arts generally, the critical faculty is likely to wilt before a famous name, and Britannic House has received an ovation such as would scarcely have been accorded had it been the work of a younger and less well known man,—for the simple reason that it does not merit it. Britannic House is clever,—brilliantly clever. It disarms criticism by reason of its cleverness, and is comparable to the flowery peroration of a gifted politician, skilled in dialectic and rhetoric, and it beats down critical opposition. It is rich and fascinating. It is like a conjuror whose incessant talk absorbs the attention until the climax of the trick is reached. The means are overlooked; it is the end alone that matters. Unfortunately in architecture, especially in the architecture of a huge city, it is not only the end that matters. A picture may have no duty due to its position, no consideration due to its neighbors; a building has both, and unrestrained individualism

on the part of a building in a busy thoroughfare is as out of place as on the part of a person in a crowded railway carriage. Certain conventions must be observed, for upon them depends the smoothness of communal life. But individualistic behavior in the railway carriage may not always take the form of blatant aggression and rudeness; it may take the form of good natured loquacity, or tiresome friendliness displaying itself in a lack of reticence and forbearance. The great new shops of London offend in the former manner; Britannic House, perhaps, in the latter. It



Adelaide House, London  
Sir John Burnet and Partners, Architects



*Photo. Sydney W. Newbery*

BRITANNIC HOUSE, LONDON  
SIR EDWIN LUTYENS, ARCHITECT





*Photo. Bedford Lemere & Co.*

ADELAIDE HOUSE, LONDON  
SIR JOHN BURNET AND PARTNERS, ARCHITECTS



Detail of the Entrance

is tiresome and fidgety, but it is certainly friendly and good natured, so that it is difficult to be angry with it; as well be angry with a too-confidential neighbor.

There is nothing cheap about Britannic House. The rich industrial corporation was surely not particular as to spending a few thousands more or less. The setting back of the upper stories, a device which achieves a kind of dramatic effect, is surely an expensive luxury,—and then the carving! Delicate and beautiful, executed by Mr. Broadbent and his assistants, it adorns keystones and capitals, and it is particularly prolific above the sixth story windows. Its presence, one presumes, is a continual secret joy and inspiration to the board of directors, who may indeed deem themselves true art patrons, who have set carving before dividends, for without field glasses it is impossible to observe the detail of the carving from the ground, even now when it is newly finished, and in a year or two it will be completely obscured beneath a rich coating of London's soot deposit. Yes, Britannic House ignores realities, at least so it impresses the spectator, although all criticism of it is subject to reservation, seeing that but half the building is as yet completed.

Within there is much to admire. The planning is simple and yet subtle, with its gently curved hall following the line of Finsbury Circus, and its changes of axes due to the irregularity of the site. Within, too, there are ample signs of the exercise of Sir



Entrance, Adelaide House



Edwin's fertile imagination. The ground floor hall and corridors are paved with squares of cast iron and white marble. The ceilings are varnished, so that the floor patternings may be reflected therein,—a delightful reversal of the usual procedure, in which the floor is the reflecting surface. Then the staircases are planned from floor to floor on *opposite* sides of the main corridors. The ascent is thus delightfully broken, and the disheartening sense of stepping into an endless well is avoided. The rubber treads, silent and dark, contrast richly with the white marble of wall and shining ceiling. Each floor is paved in rubber of a distinctive color, surely a pleasant, practical treatment. The equipment of the vast building is throughout in accordance with the very latest practice which science and invention have been able to provide; all service mains, pipes, ducts, and so on are discreetly hidden, while yet remaining immediately accessible. Britannic House shows indeed the meticulous coördination necessary among all the trades and crafts engaged upon a vast modern building enterprise to obtain a finished result.

If Britannic House is personal, Adelaide House is impersonal. That is not to say that anyone seeing it would not at once attribute it to Sir John Burnet, but the approach to the problem is impersonal. Here are certain definite requirements; here is a great city; this is the twentieth century; these are the materials at my disposal;—and



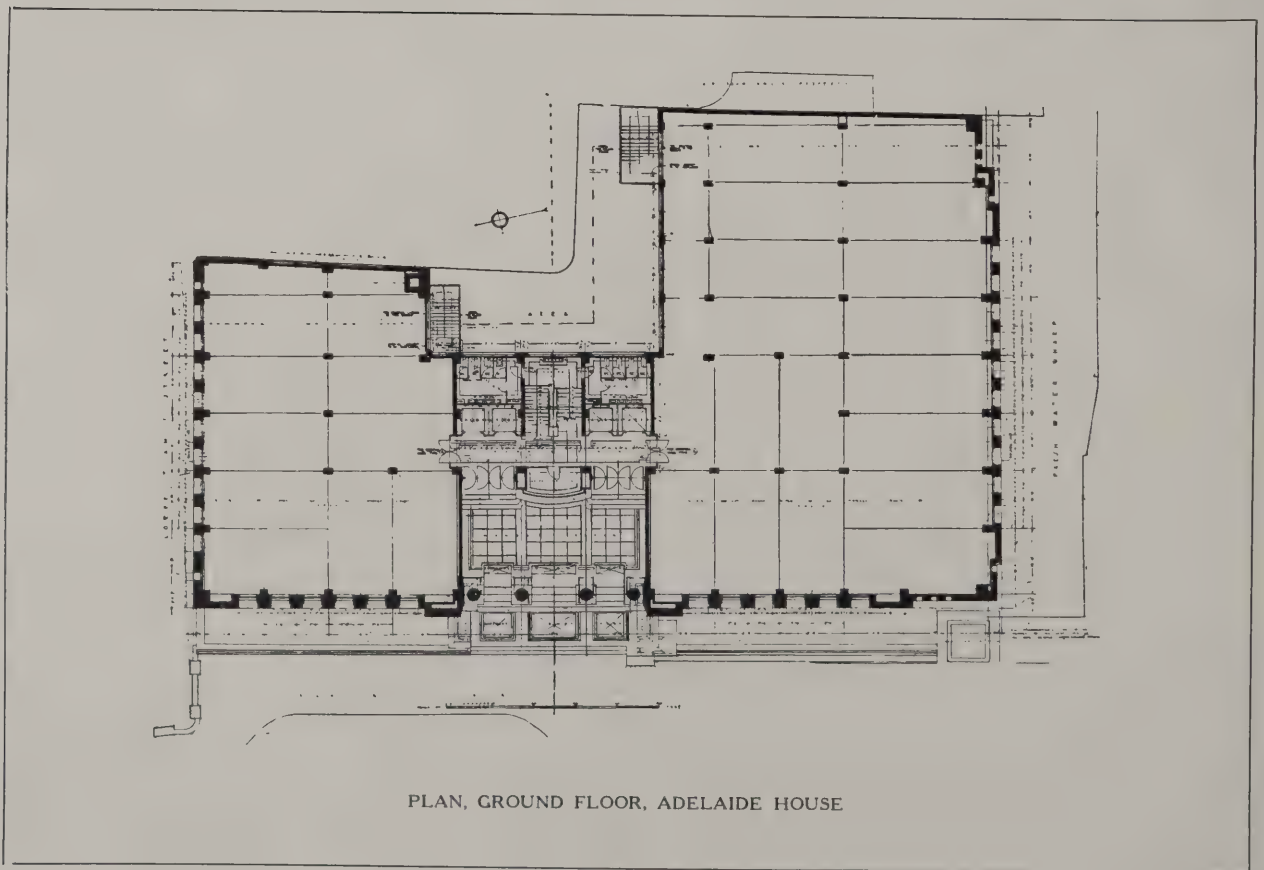
Stairway, Britannic House



Entrance, Britannic House



LOBBY, ADELAIDE HOUSE

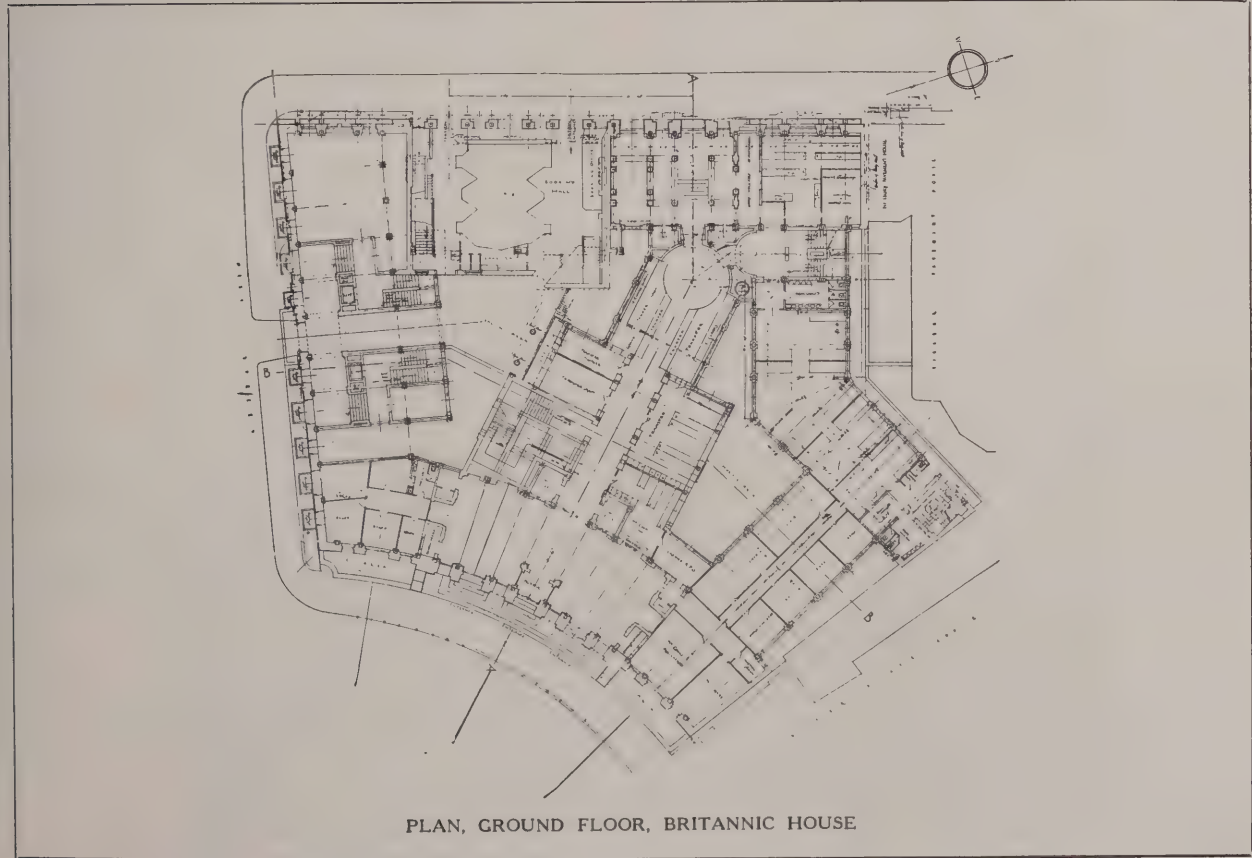


PLAN, GROUND FLOOR, ADELAIDE HOUSE





LOBBY, BRITANNIC HOUSE



PLAN, GROUND FLOOR, BRITANNIC HOUSE

Adelaide House is the logical result. If there is romance about the building, and some may certainly find it, it is the romance that certain painters and etchers find in the pulsating activity of iron works, in the starkness of a great ship in its dock, in the disorder of a pit head, but it is not the romance evoked by suggestions of the past. If there is beauty,—and that there almost surely is,—it is the beauty that is found in the motor car, in a piece of smoothly running machinery, in a race horse,—wherever, indeed, there is a balanced synthesis of form, purpose and material. And moreover, there is grandeur, there is simplicity. If you fail to like it, if its crudeness offends you, then you are out of touch with the century in which you live. "Love me, love my dog" is an adage which might here be recast: "Love my age, love Adelaide House." But it is expressive of the best of the age, for there is nothing vulgar about Adelaide House, and vulgarity is a besetting sin of the age. Adelaide House has its counterpart in other art forms, in music, in painting, and in sculpture, and wherever they are met they are somewhat startling and are likely to frighten the timid and to distress others, but to the robust they are invigorating. It is as yet impossible to prophesy



Stairway, Britannic House

how the future of architecture will develop, but there is a future along the lines of Adelaide House; there is no future along the lines of Britannic House, which must ever remain an entirely personal utterance.

Despite the novelty of Adelaide House, it harmonizes with its neighbors, and this is because the parts are small and are kept in scale with the human form. It impresses without overawing, and seen from London Bridge it has a truly majestic dignity which will be enhanced when the crowning upper story takes its place above the cornice. The building is steel-framed; the lower story is faced with granite and stone.

Perhaps after all it is incorrect to say that these two new buildings have no common quality, for they at least have this:—they are both alive. Neither of them is a *pastiche*; in neither is there any sign of that febrile searching in books and portfolios for motifs which unfortunately distinguishes so much contemporary architecture just now, and this is because both buildings are the work of men who are fertile with ideas. If we feel that one will have a greater influence than the other, it is but the expression of a personal opinion which time will either confirm or contradict. Both Britannic House and Adelaide House are English architectural achievements.



Adelaide House, from the Thames



# St. James' Church, Winsted, Conn.

COFFIN & COFFIN, Architects

By KENNETH FORD COFFIN

"What an image of peace and rest  
Is this little church among the graves!  
The wounded spirit, the heart oppressed,  
Here may find the repose it craves."

W HERE is "this little church" which Longfellow so beautifully describes? For the benefit of those who are not students of the immortal poet, the answer is,—in England. But this is not surprising, for even the English admit that all Christendom is envious of the beauty and antiquity of their parish churches, an admission not in the least exaggerated in spite of the ravages of time and civil war, religious differences, and unsympathetic remodeling. Among the justly envious the United States deserves a front rank position, which in less critical moments is attributed to the adolescent stage of our national growth. Although we are undoubtedly far ahead of these early church builders in general taste and refinement, as measured by the scope of arts and sciences, we are their inferiors in "the application of architecture to its highest purpose;" in church architecture we have much to learn.

Of all the various Protestant denominations in this country, the Episcopal Church has the greatest heritage from England, and it is accordingly logical for this body to turn there for architectural inspiration and example. Winsted is an old New England town, and at first thought it might seem appropriate to follow there the best church precedent we have,—that of our colonist forefathers. Their places of worship were, from necessity and choice, boldly different from those of their English ancestors, and admirably adapted to new and varied conditions. But the fierce flames of bigotry, which changed even the architecture during that period, no longer burn to effect such contrasts in modern church design here in America.

Furthermore, Winsted nestles among rugged foothills, far wilder and more primitive than their serene and majestic neighbors, the Berkshires, an environment which suggests the use of stone. A so-called Colonial church would surely be too sophisticated for this town, famous for extremes of nature, with its six-legged cows and its mushrooms as large as cabbages, if one can believe the newspapers. Along with the other freaks of nature which give Winsted her place

in the sun is the local field stone, used primarily for pasture fences, and undoubtedly the least desirable of all building stones. It is a large, rounded, black cobble, with little variation in tone or texture, and as hard as flint. Use of this black sheep among building materials was carefully avoided in the original specifications for the new church, colorful and stratified granite having been chosen instead. Church building funds, however, have their limits, and in this case the limit was reached before the more expensive material could be included. White marble and red sandstone were available in this vicinity, but both of these were obviously unsuitable for an informal building of the type proposed. A blank stone wall had literally been reached and, as the least of these evils, field stone was finally used. The flintlike character of this cobble stone recalls to memory the numerous parish churches in the southern counties of England, some even within sight of the portals of Canterbury, built of small, black flints, which have successfully defied time and weather. The contemplation of these charming English churches encouraged the use of the local field stone, and the design of the building was largely governed by a desire to be in sympathy with use of this unusual material.

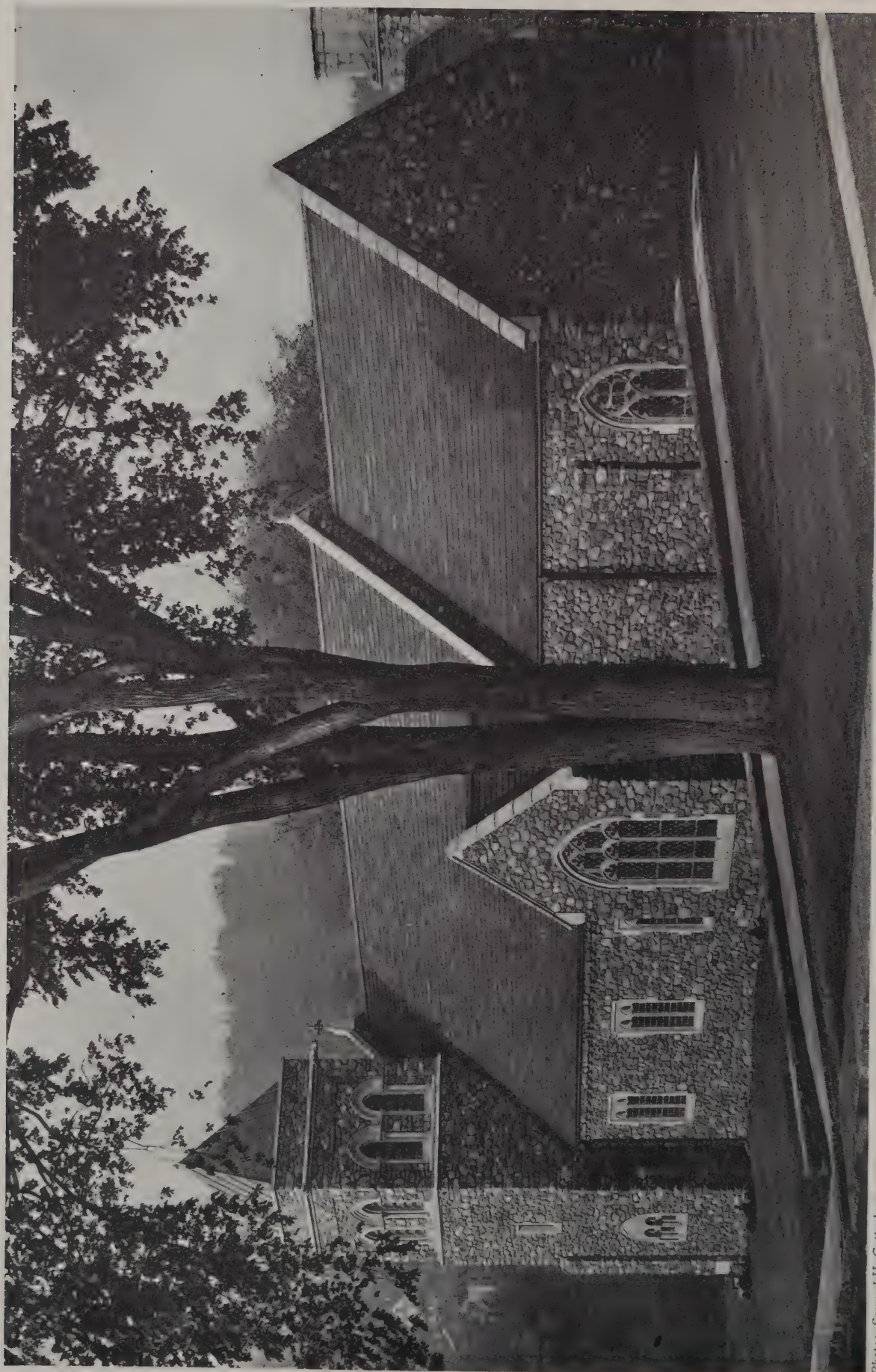
Instead of using merely one style or type of ecclesiastical architecture, several related styles were adapted with results suggesting the English parish churches which recall the various periods of history during which they were built. Departure from use of one style or period throughout a church is not favored by architectural purists, but in this cosmopolitan era such liberties are sometimes justified if unity is the result. From the simple Norman tower to the more elaborate Late Gothic chancel the progression in architectural style was intended to be gradual and appropriate to the function of each part of the plan of the church.

Possession of a corner plot determined the general shape and distribution of the elements of the plan, but the traditional method of orientation for an English church, with the chancel at the east end, was disregarded. The modification of ancient and established laws, changes in the form of service, and expansion of functions to meet modern demands, while often the cause of much dissension



Sanctuary and Altar, St. James' Church, Winsted, Conn.

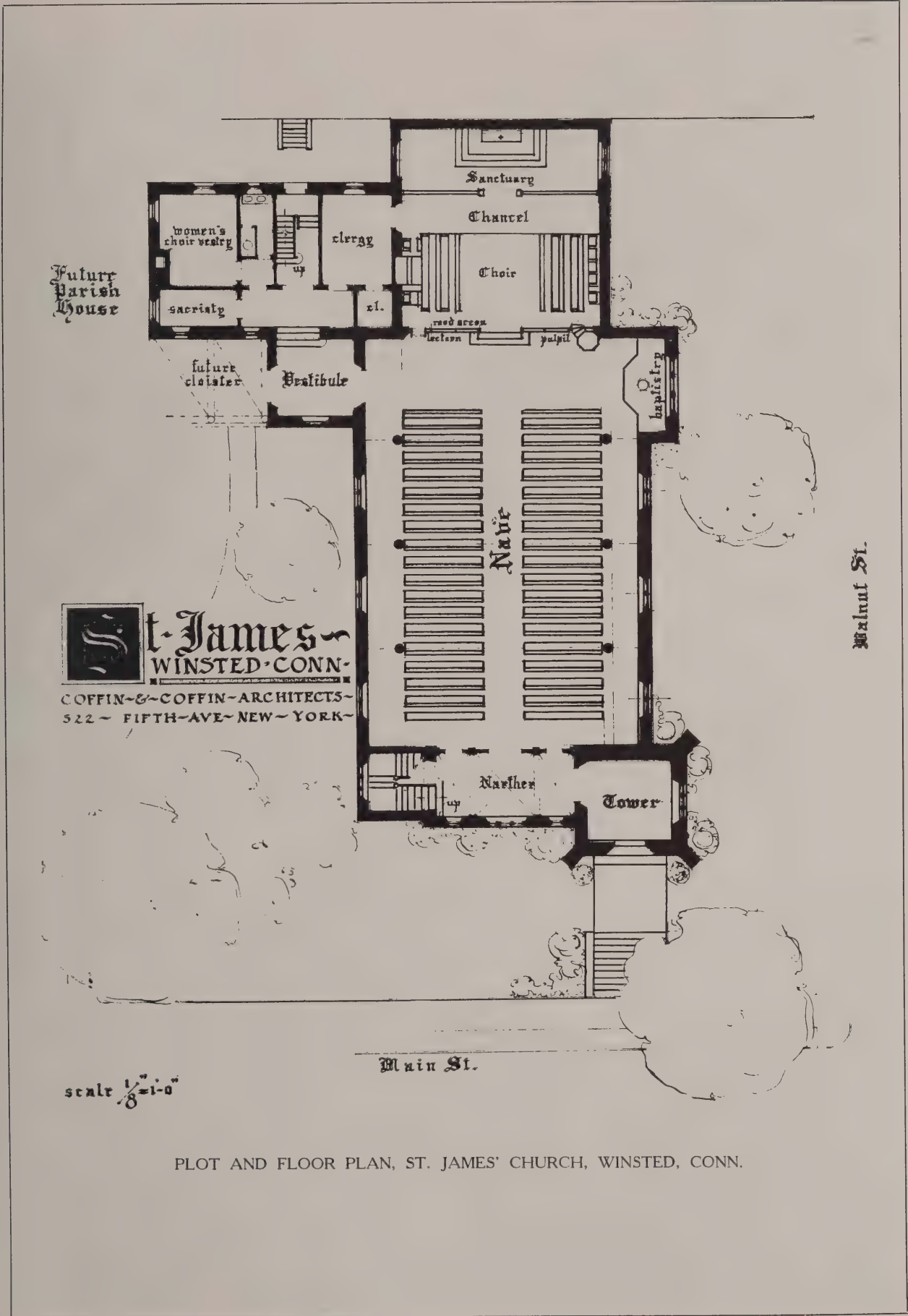




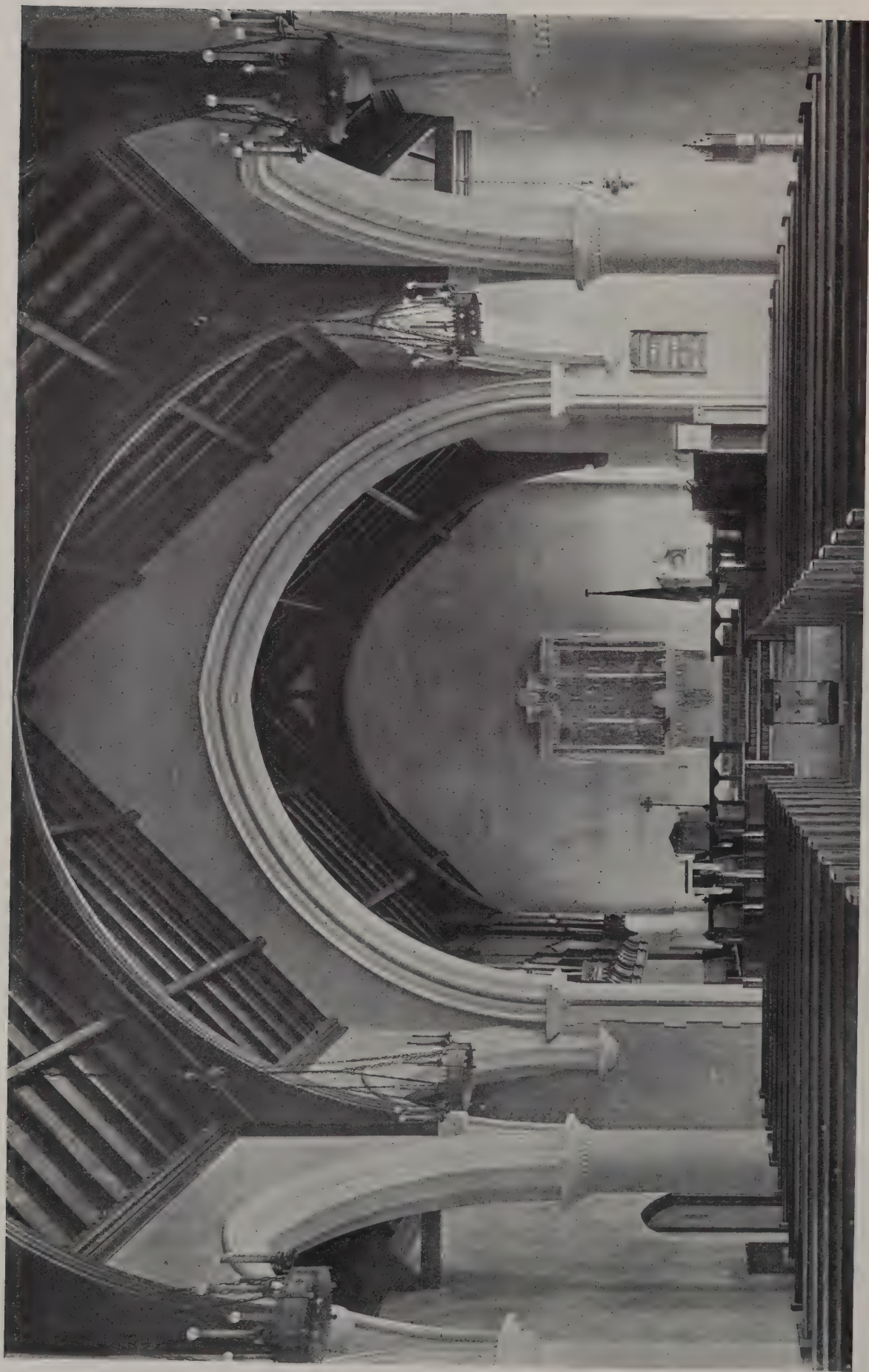
*Photos. Samuel H. Gottscho*

ST. JAMES' CHURCH, WINSTED, CONN.  
COFFIN & COFFIN, ARCHITECTS





PLOT AND FLOOR PLAN, ST. JAMES' CHURCH, WINSTED, CONN.

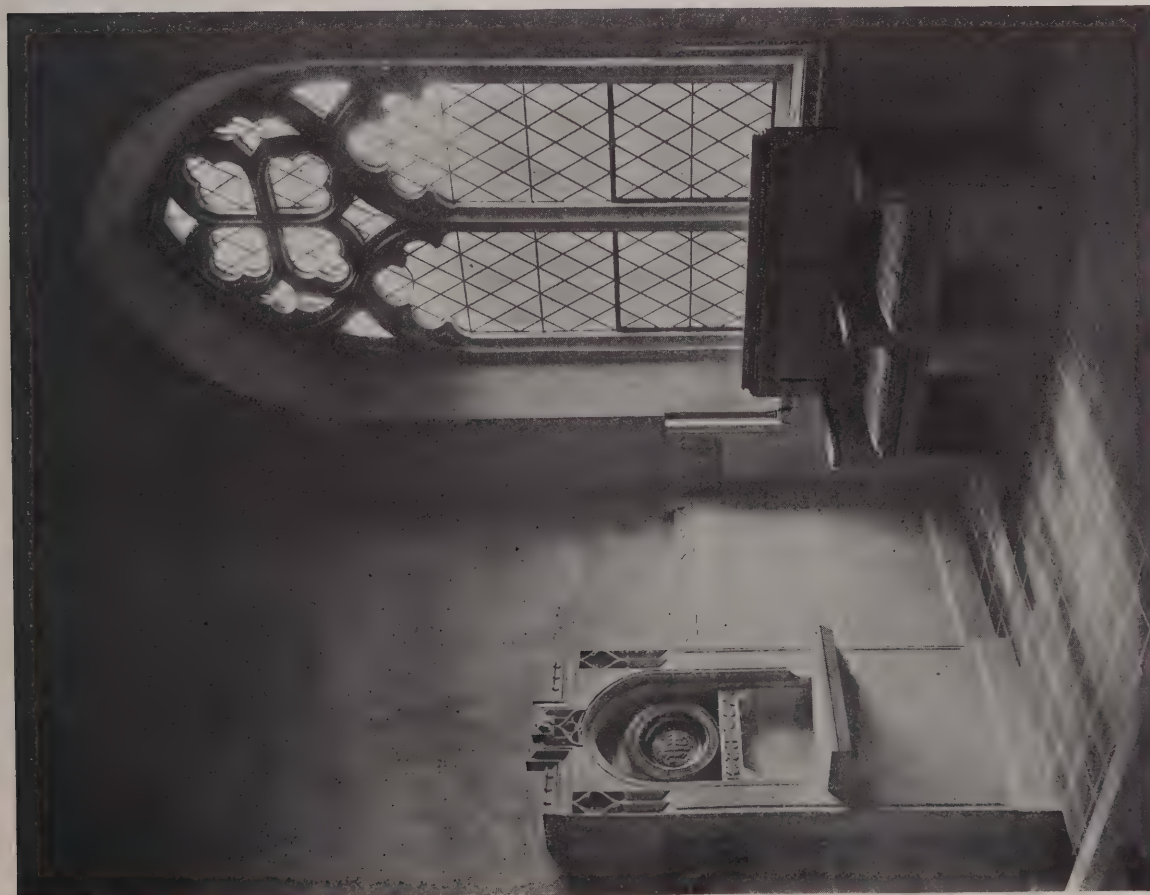


NAVE AND CHOIR, ST. JAMES' CHURCH, WINSTED, CONN.  
COFFIN & COFFIN, ARCHITECTS





THE BAPTISTRY



THE CREDENCE AND SEDILIA

DETAILS, ST. JAMES' CHURCH, WINSTED, CONN.  
COFFIN & COFFIN, ARCHITECTS

and debate among theologians, at least prevent too accurate reproduction of the old buildings and stimulate originality in design. A column or pier which is gratefully welcomed by drowsy and apathetic parishioners is too often the cause of much annoyance and dissatisfaction to their more attentive brethren. These obstructions may be avoided by using a long, narrow nave or one short and wide, but the former plan is usually impractical for good acoustics, and the latter a handicap to both beautiful and economical design. To overcome these objections in the new St. James' Church, and at the same time to create a resemblance to the column and arch construction customary in the English type, the narrow side aisles were arranged without seats, and for circulation only.

The costly clerestory, however, was omitted for the sake of economy and as an aid in eliminating damp walls, but of course at the sacrifice of that atmosphere which contributes so much to the charm of old structures. The heavy columns with their slightly pointed arches springing from them are similar to those used in the transitional period between the Late Norman and Early Gothic, and were not used merely for effect but serve a definite structural purpose. They shorten the span of the oak

roof trusses, and take the concentrated load, while the exterior walls receive their thrust and perform the same work as the picturesque flying buttresses. By employing this simple form of construction to meet practical requirements, a resemblance to the interiors of the old churches was maintained though not duplicated. Omission of the clerestory suggests a dark nave, but here the windows on the narrow side aisles give ample light without destroying that mystery in the depth of shade and shadow so needed.

The parishioners interested themselves in the construction and furnishing of this church in somewhat the same spirit of sacrifice which accompanied the furnishings of the old structures. The altar, the colored faience tiles in the chancel floor, the organ, the stained glass windows, and innumerable other fittings were generously contributed by them. Generosity seems customary in Winsted church circles, however, for a story is current there to the effect that one of their clergymen was presented with a new pair of trousers by the ladies of the Home and Foreign Missionary Society. In his address of thanks he undoubtedly alluded to Psalm 139:2:

"Thou knowest my downsitting and mine uprising:  
Thou understandest my thought afar off."



View from Northwest, St. James' Church, Winsted, Conn.



# George Harrison Phelps, Inc., Building, Detroit

SMITH, HINCHMAN & GRYLLS, Architects

**A**N office building and studio, located at the northwest corner of East Jefferson and Joseph Campau Avenues, is the new home of George Harrison Phelps, Inc. The new structure is most unusual in character and an innovation for Detroit. New York and Chicago have private office buildings of a similar nature, which have been designed for the use of individuals whose professional needs require considerable space for their staffs of assistants. Heretofore in Detroit such needs have been met by remodeling large residences in districts where business expansion has altered the neighborhoods, or by using ordinary office spaces in new or old buildings,—spaces sometimes adequate, but often not.

In planning the new building for George Harrison Phelps, Inc., it was desired to develop a structure suitable in every respect for the needs of a highly departmentalized advertising organization of 106

people, and, in addition, to produce a building distinctive, interesting and beautiful,—a structure that would compel attention, cause admiration, and serve in a dignified way as the home of the organization. That was the problem presented to the architects, Smith, Hinchman & Grylls. The usual solution would have been a three-story, box-like structure, punched full of holes for the various windows, topped with or without the usual cornice, etc., and the result would have been the ordinary building which may be seen on any business street in any city.

With an owner desirous of avoiding building such a structure, and more than willing to assist in developing the architects' suggestions, the result shown in the accompanying illustrations was attained. The building is set back from the Jefferson Avenue street line about 30 feet, on a brick-walled terrace. This allows space for planting, and removes the offices



Reception Room, George Harrison Phelps, Inc. Building

from the noises of Jefferson Avenue. Rising behind the trees is a facade of brick and stone, not a flat, box-like face, but a facade irregular in outline, that expresses the plan within. The architectural character of the design is a modified form of that brick architecture found in northern Italy, dating from the time of the middle ages and the early Renaissance. A well marked door and terrace of stone indicate the public entrance. To the left is a semi-circular bay, where the stair tower shows itself. To the right, extending up through the second and third stories, is a double-arched opening with a column of marble forming a balcony and great window for Mr. Phelps' studio. These three features on the exterior are set off by the smaller office windows, which have been grouped to avoid the monotony of regular spacing. On the Joseph Campau Avenue side various smaller architectural features of interest are apparent.

The walls are of brick varied in color, soft in texture, and laid in pairs to produce the effect of a long Roman brick, with mortar joints 1 inch thick. The stone trim is likewise varied in color and texture to harmonize. The roof is of tile, in shingle form, hand-made, with a variety of color and exposures. The windows are fitted with metal casements with leaded glass. The general structural work is fireproof, with reinforced concrete frame and floors. Mechanical equipment and facilities are of the best and include oil-burning steam heating plant and a well arranged private telephone system.

On entering the building through the vestibule, one steps into a public reception room, finished with travertine floors, antique plaster walls, and a beamed ceiling treated with polychrome stencils. This room

provides for an information, telephone and telegraph desk in an alcove and a waiting space for visitors. It gives access to the business offices on the first floor and to a fine stairway leading to the studio and second-story offices. This stair hall is similar to the reception room in materials used, except for the ceiling, which is of coffered wood panels with applied color. At the head of the stairway is a library and office for Mr. Phelps' secretary, as an anteroom to the studio, the room which by nature of its use, location and size gives to the exterior a dominating feature. It is two stories high, having a barrel-vaulted ceiling, with penetrations along the sides, and decorated in full color. The walls, almost unbroken by windows, because of the great window looking out over the balcony, offer excellent spaces for the fine old furniture and wall fabrics belonging to Mr. Phelps. At the end opposite the great window there is an old Italian stone fireplace, its design in keeping with the style and scale of the room.

In addition to the special rooms just described, the first and second stories contain a dozen or more private offices for the various executives, with a mailing room and barber shop on the first floor and library and conference room with a kitchenette on the second floor. The third floor provides for the bookkeeping and clerical forces, vaults, the auditor, the dictaphone, and statistical departments. The basement has, besides the usual heating plant and store-rooms, a five-room apartment for the caretaker; and, most unusual, a regulation-sized squash court with dressing, locker, shower and rubbing rooms. In connection with these athletic facilities there is an open-air volley ball court at the rear of the building.



Stairway, from Second Floor



The Foot of the Stairway

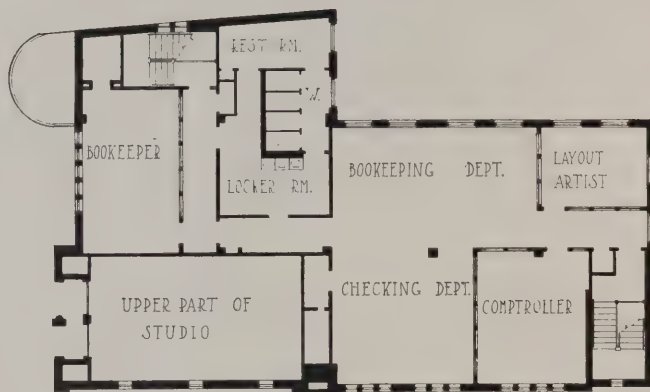




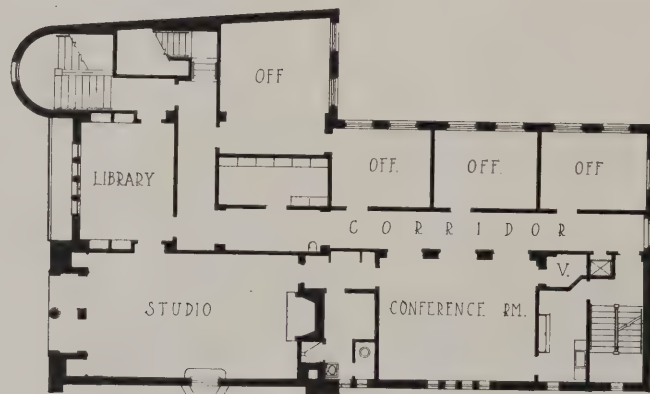
*Plans on Back*

GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

*Photos, Thomas Ellison*



THIRD FLOOR



SECOND FLOOR



SCALE OF FEET  
0 5 10 20

FIRST FLOOR

PLANS, GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT

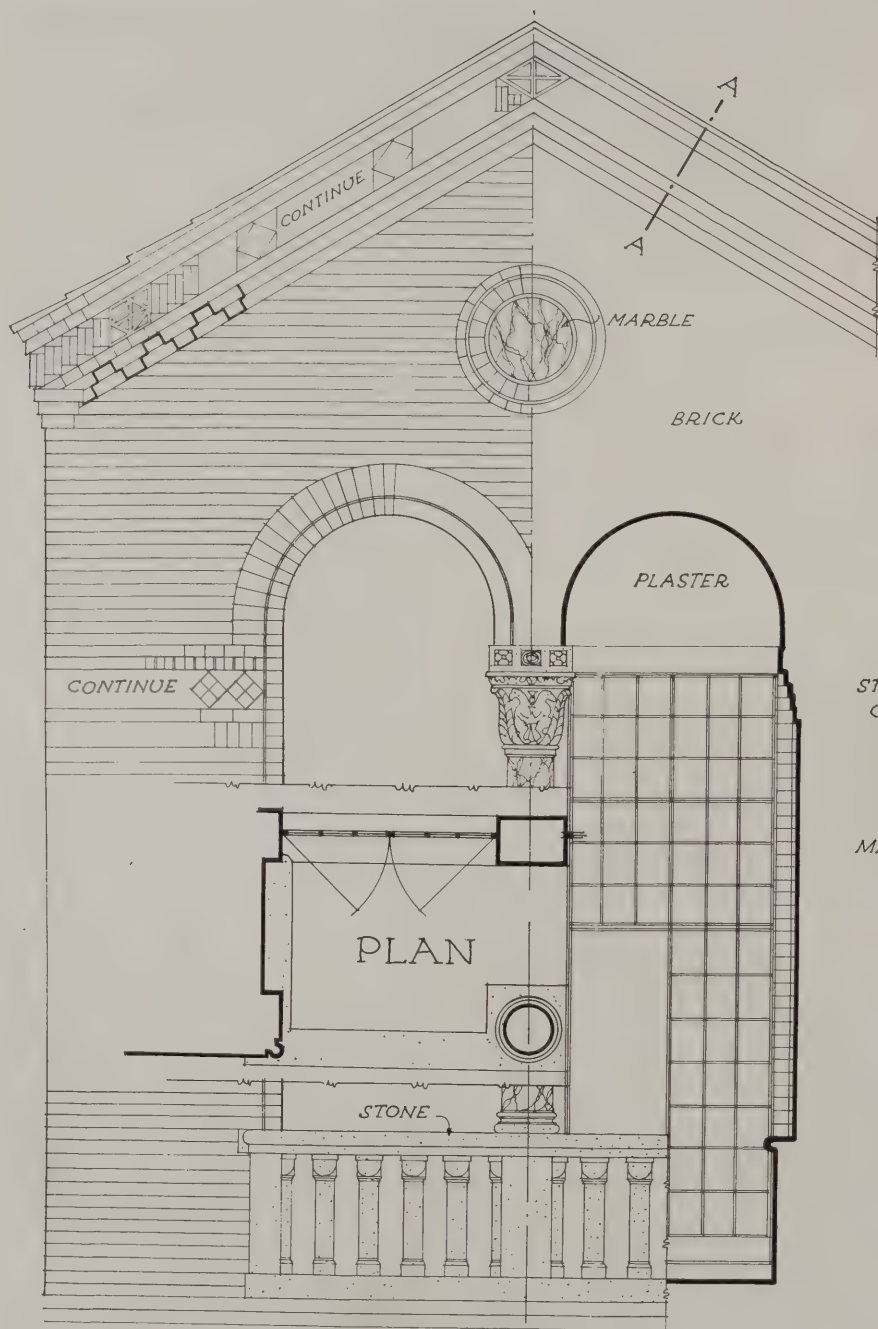
SMITH, HINCHMAN & GRYLLS, ARCHITECTS





Measured Detail on Back

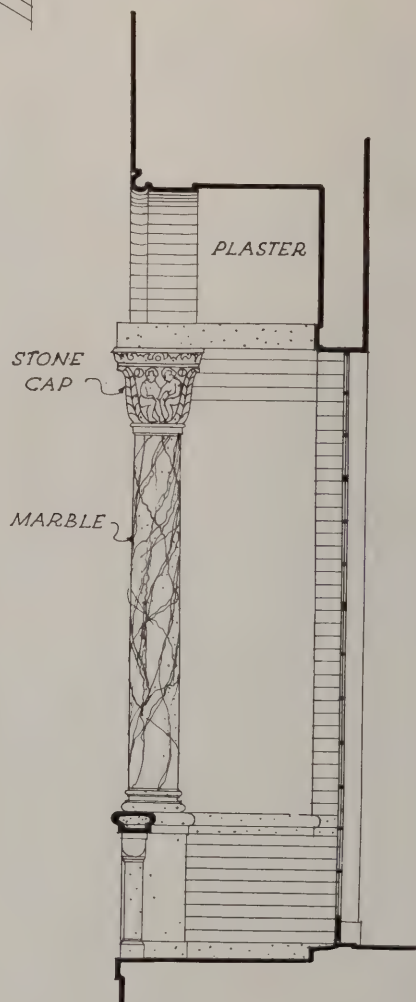
GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



ELEVATION



SECTION  
A-A



SECTION

SCALE 0 5 10 IN FEET

## DETAILS OF BALCONY

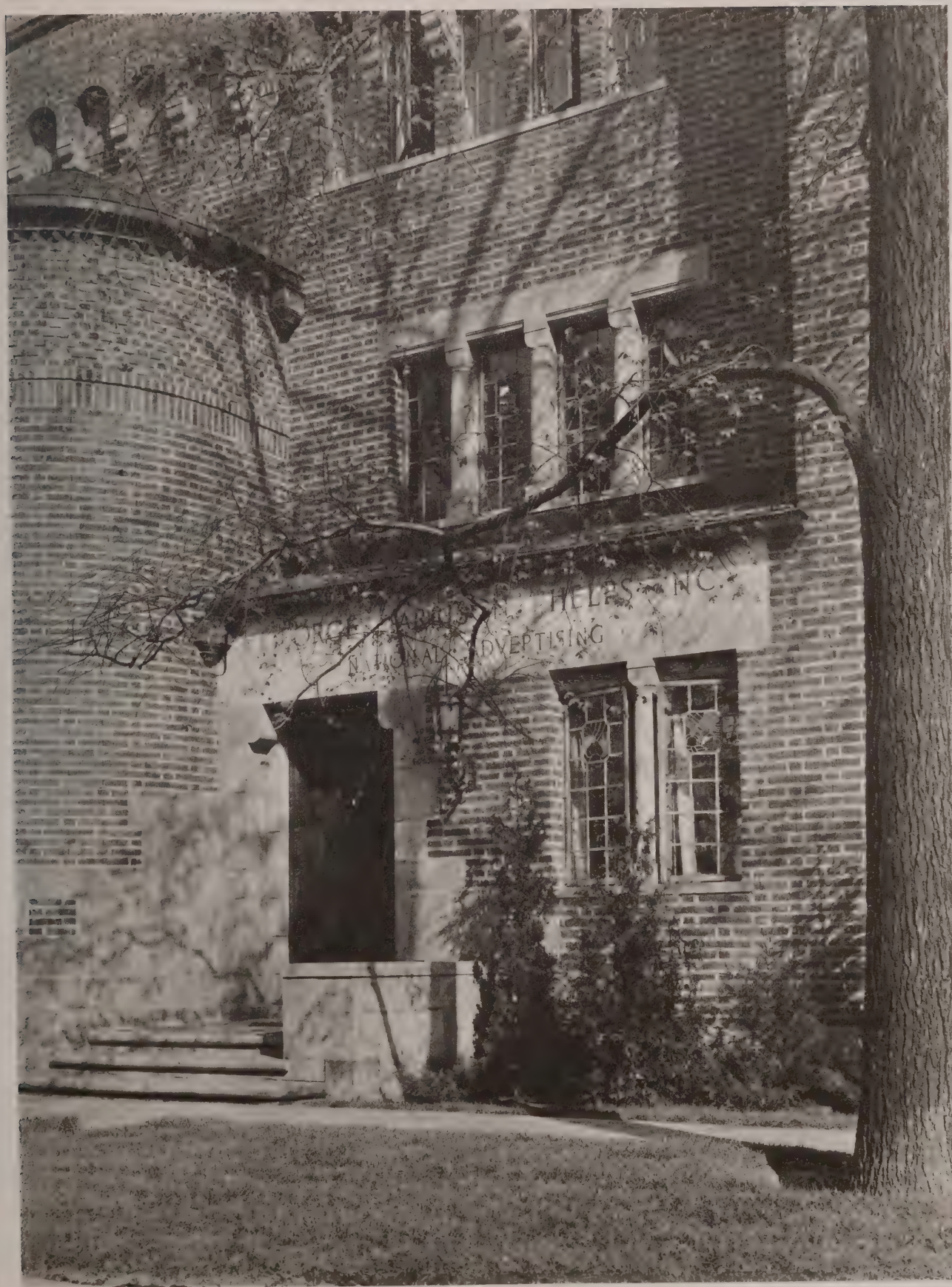
SMITH, HINCHMAN & GRYLLS ARCHITECTS & ENGINEERS  
DETROIT, MICHIGAN

AUG  
1926

NO  
4

# The ARCHITECTURAL FORUM DETAILS

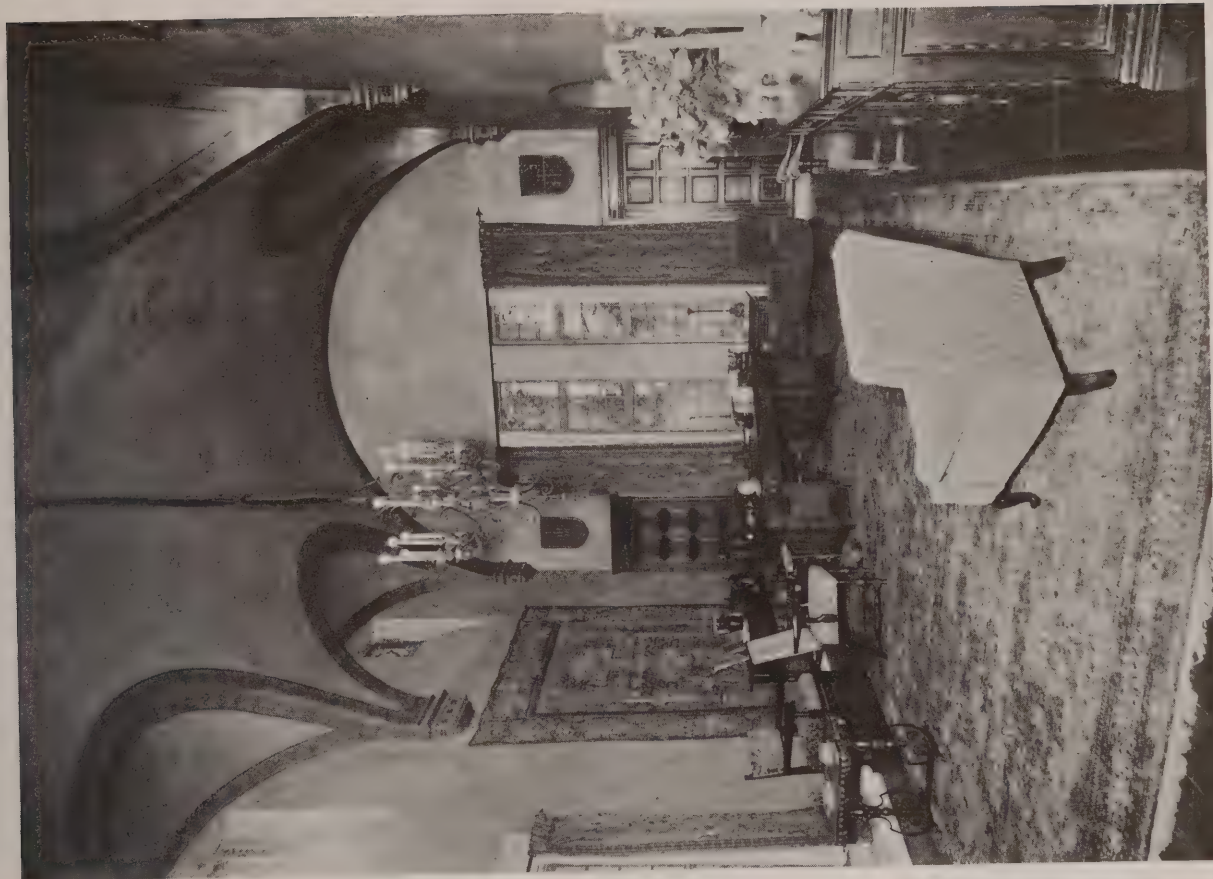




THE ENTRANCE  
GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







TWO VIEWS OF MR. PHELPS' STUDIO  
GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







RECEPTION ROOM, LOOKING TOWARD STAIRWAY

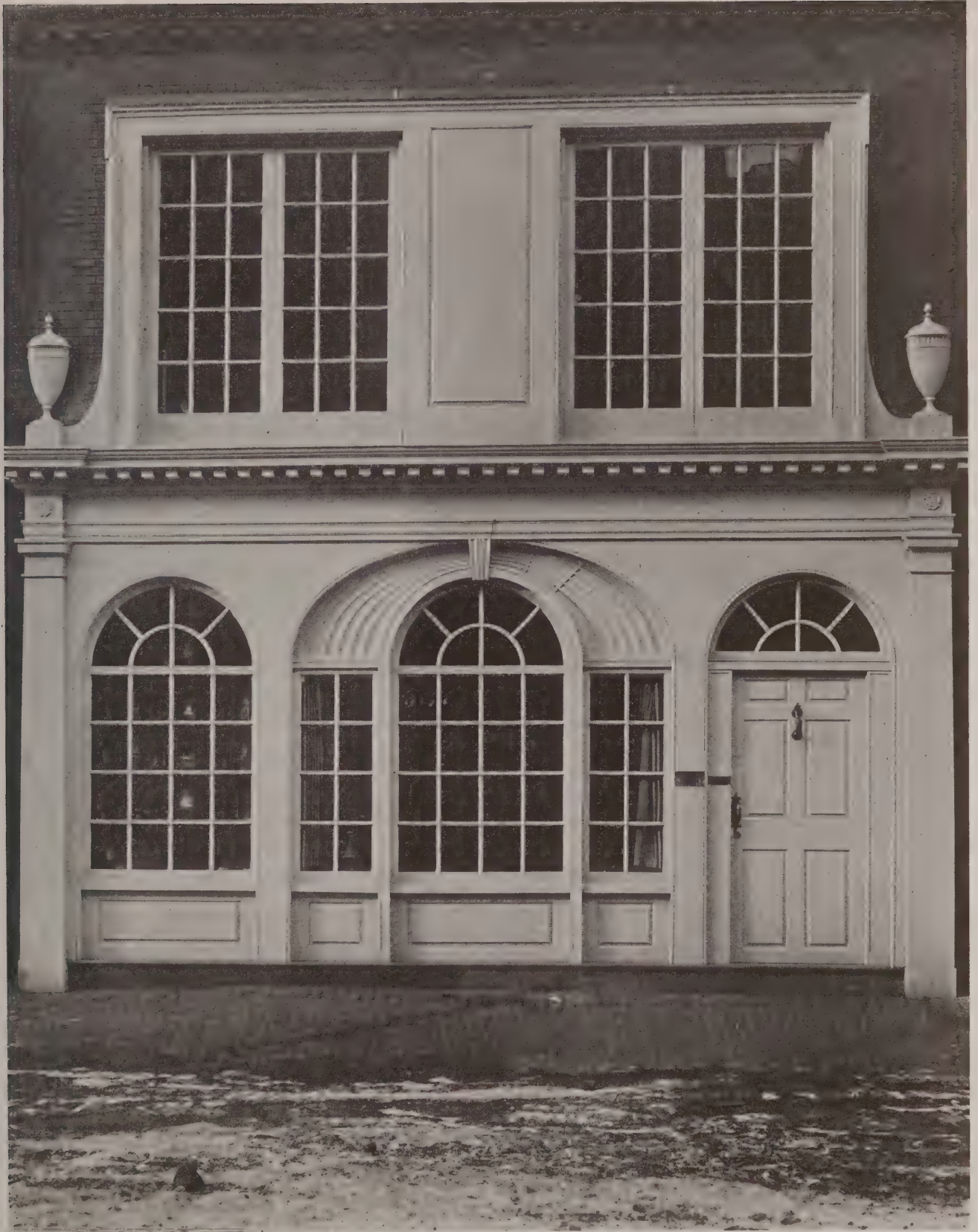


CONFERENCE ROOM

INTERIORS, GEORGE HARRISON PHELPS, INC., BUILDING, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



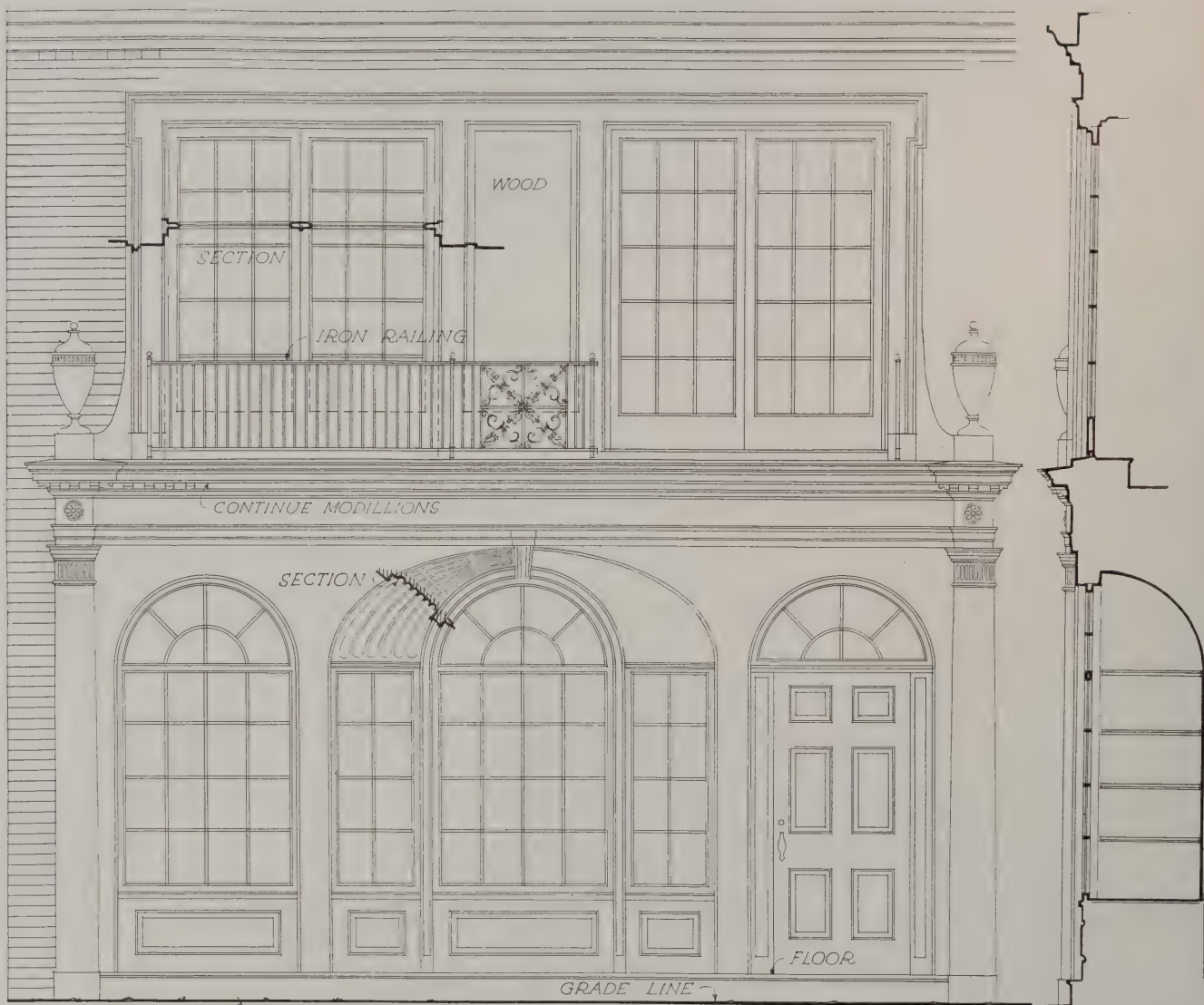




*Photos. Shaw Photo Service*

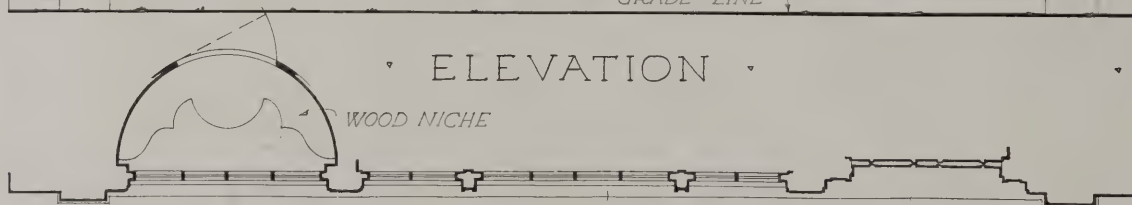
THE KING HOOPER SHOP, CHESTNUT STREET, BOSTON  
DANA SOMES, ARCHITECT

*Measured Detail on Back*



• ELEVATION •

• SECTION •



SCALE 0 5 10 IN FEET

DETAIL OF FRONT  
ALTERATIONS FOR I SACK ESQ  
CHESTNUT STREET, BOSTON

DANA SOMES ARCHITECT BOSTON MASS

AUG  
1926

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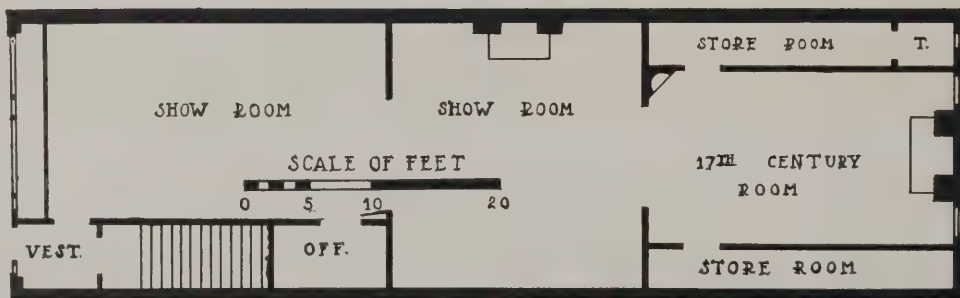
The ARCHITECTURAL FORUM DETAILS





Plan on Back

SEVENTEENTH CENTURY ROOM, THE KING HOOPER SHOP, BOSTON  
DANA SOMES, ARCHITECT



PLAN, KING HOOPER SHOP, BOSTON  
DANA SOMES, ARCHITECT





MAIN SHOW ROOM



MIDDLE SHOW ROOM  
INTERIORS, KING HOOPER SHOP, BOSTON  
DANA SOMES, ARCHITECT





# The Historic Cathedral and Library, Vincennes, Ind.

By THOMAS E. O'DONNELL

*Assistant Professor of Architecture, University of Illinois*

TWO of the most interesting historic buildings of the middle west are to be found in the once noted but now almost forgotten Indian-French town of Vincennes. The old St. Francis Xavier's Cathedral, now a parish church, and the Cathedral Library which adjoins it, are silent reminders of a period in American history when this community played an important part in the affairs of the old Northwest,—an early outpost of civilization.

Long before our forefathers reached the shores of this continent, the Wabash River was well known to the Indians, and the spot where now is located the city of Vincennes, was one of their favorite haunts. The land, which was covered with light brushwood, could be easily cleared, and the rich, sandy soil was tilled with little labor; consequently, it was the natural location for an Indian village. This Indian settlement became known to the white man through the French explorers and missionaries. Of all the early explorers to visit the American continent, none were more daring or zealous than the French. Zeal for establishing missionary posts and for converting the Indians caused them to penetrate the wilds of this section of the country. A "Missionary of the Cross" always accompanied the French soldiers and explorers, wherever they went to establish trading posts and settlements. The French made their first permanent settlement in Quebec in 1608. From here they worked westward and southward. They made a settlement at Detroit in 1670, at Kaskaskia in 1673, and it is almost certain that the black-robed Jesuits visited the Indian village on the site of the present city of Vincennes before 1700. Old records collected from Kaskaskia and other early French mission centers give evidence that the town now called Vincennes and the French Catholic church there were in existence in 1708, and probably earlier.

Whatever the exact date of settlement, Vincennes is a very old city, and although now of comparatively little importance, she has had a distinguished past and her place in American history is firmly fixed. She was destined to become the most important and permanent of all the French missionary posts in the Mississippi Valley. The place is of more than general historic interest to us because here, at different times, the flags of three nations have been unfurled,—those of France and England, and since 1779 that of the United States. Long before Chicago was even a village Vincennes was considered a city. The comparative importance of the two places in the early days is brought out by an old document, quoted by an early writer, in which it is said that the village of Chicago petitioned the city of Vincennes for the purpose of opening a road connecting the two centers.

Vincennes also bears the distinction of being the first cathedral city in the state of Indiana and one

of, if not the first, in the whole Northwest Territory. It is because of this fact that we have coming down to us today the two unusual and important examples of early American architecture. The first St. Francis Xavier's Church, which is said to have been founded about 1702, was of the stockade type with a thatched roof. The altar and other details of furniture were crude affairs, made on the spot with primitive tools and the aid of Indian converts. In 1785 Father Gibault built a new log church, 42 by 90 feet, which was used until about 1830. The present church edifice, which stands very near the site of the earlier churches, was projected by Father Champomier in 1825, and the cornerstone laid on March 30, 1826. By great sacrifice and labor the work of construction was continued by the local adherents of the church from 1825 until 1834, when, upon the arrival of Bishop Brute, it was destined to become a cathedral, seat of episcopal rule for a vast region.

It is not known who designed the structure, but it is most likely that Father Champomier, who was in charge of the original project, was responsible for the design of the earlier portion, while Bishop de la Hailandiere was in part responsible for the later additions, although a master builder was no doubt in charge of the actual construction. The Vincennes Cathedral is similar in many respects to the cathedral at Bardstown, Ky., which was built ten years earlier, and for that reason some of the church officials are of the opinion that one designer may have been responsible for both buildings. There is preserved in the Cathedral Library an original drawing showing the design of the structure as it was originally planned. The name of the designer does not appear on the drawing. By comparing this original drawing of the structure and the building as actually completed, it is seen that the design was carried out in most respects, except for the arrangement of entrances at the front. The original drawing shows that the main or front facade was to have had three large windows, similar to those on each side of the church, and that it was originally intended to have two side entrances, one on each side near the front.

A measured plan of the Cathedral, as it stands today, is included here. Although small and simple enough in its parts, it displays nevertheless, characteristics which clearly mark it as a building of distinction, especially when we consider its early period and the pioneer conditions of the country at the time it was built. It consists of a nave and two aisles, the nave being divided by rows of columns from the aisles. These columns, eight in number, are 2 feet in diameter and 28 feet high, and are of a simple Doric-like type, without entasis. They are constructed in a manner quite in keeping with their period, being made of solid tree trunks, especially se-



THE OLD CATHEDRAL, VINCENNES, IND.

SERVED AS THE CATHEDRAL OF A VAST REGION FROM 1834 to 1895; NOW USED AS A PARISH CHURCH

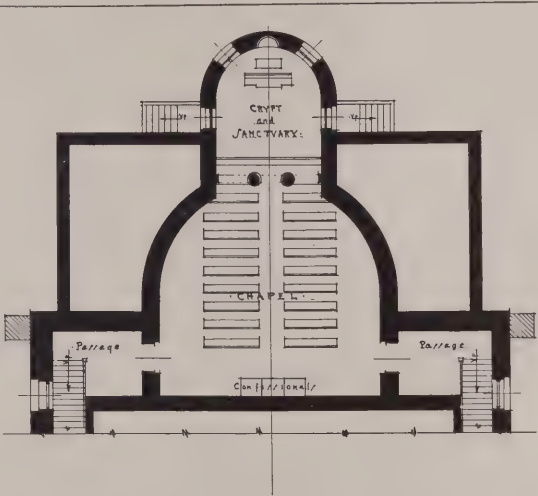
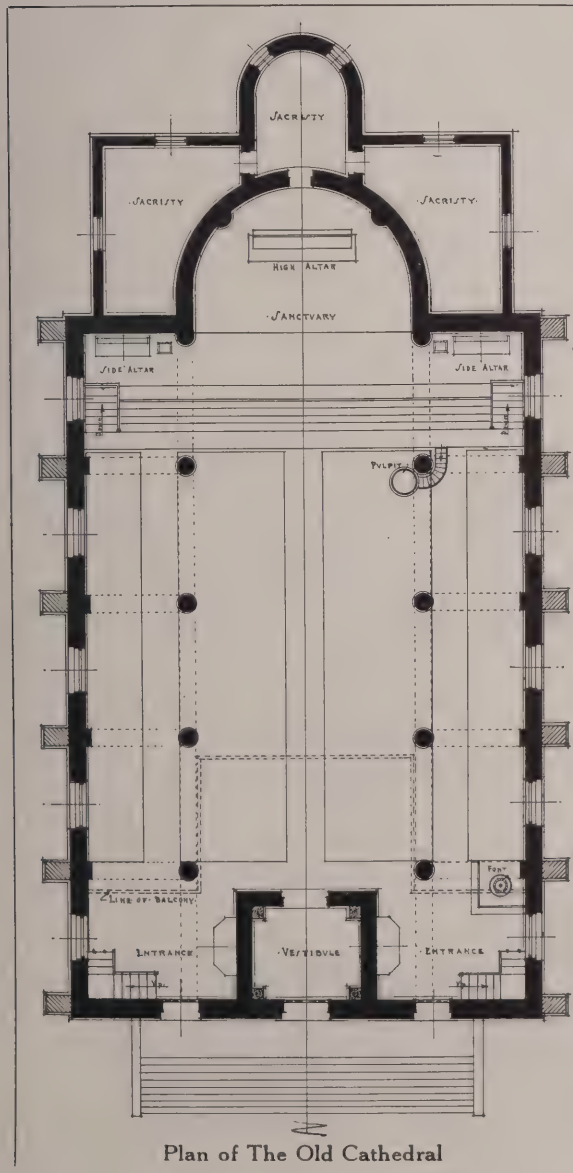


lected for the purpose, which after being shaped as desired were lathed and then plastered. On the walls are pilasters of like proportions and construction. The columns carry wooden arches, spanning from column to column and from columns to wall pilasters. The ceilings of the side aisles, between the wooden transverse arches, are flat, while that over the nave and apse is in the form of a wooden vault, which is flattened at the top. The construction of these ceilings and vaults is quite singular in that they are at once insulated and semi-fireproofed by means of a layer of clay mixed with straw, of several inches in thickness, placed over their entire area.

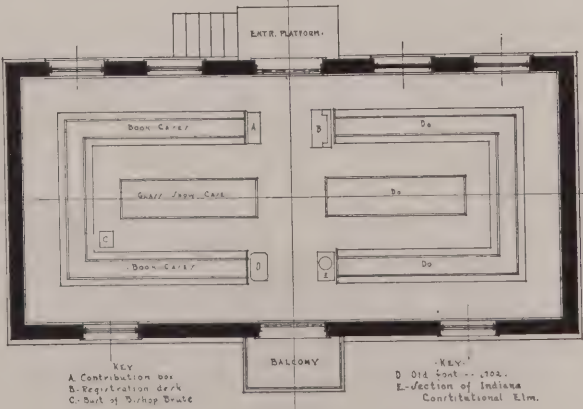
The sanctuary, which is of generous proportions, is raised five steps above the level of the nave. It contains the high altar and two side altars. From the side aisles, stairways lead down to the chapel and crypt below the sanctuary. Back of the sanctuary are the sacristies. The organ loft, which is over the main entrances, is shown by dotted line on the accompanying floor plan. It has been enlarged at some

later period, a fact that is evident from the change in design of the railing, and an organ has also been installed in the loft. Perhaps the most distinctive feature of the old cathedral church consists of the crypt and chapel below the sanctuary. This is an unusual feature in American church architecture, especially in the smaller churches of early times, and can be traced, in this instance to French influence.

Architecturally, the exterior of the old Cathedral is very plain and simple. The front facade, however, is quite effective with its three arched doorways, above each being a niche filled with a statue. In the niche over the central doorway stands a statue of St. Francis Xavier, to whom the Cathedral was dedicated. The statue in the niche over the doorway to the left of the center is of St. Joan of Arc, and in that to the right is a statue of St. Patrick. Crowning the whole facade there is a plain pediment with an effective cornice, and rising above this is the clock tower and belfry terminating in a slender spire, the total height being about 140 feet. This was the



Plan of Chapel and Crypt, Under the Sanctuary  
Plan, The Old Cathedral Library



Plans Measured and Drawn by Joseph J. Weiler

last main exterior feature added to the Cathedral and was built between 1840 and 1847 under the direction of Bishop de la Hailandiere. Structurally, this tower is of considerable interest. It is carried upon heavy masonry walls, square in plan, which are 2 feet in thickness and carried up to the attic of the structure. Within the four angles of this tower are set up heavy vertical wooden timbers which are, by means of splicing, made continuous through the entire height of the tower. These are made more firm and rigid by being framed, in stages, with heavy horizontal timbers and crossed bracing on all four sides. All of the tower and spire which appears above the roof is of wooden construction. The tower contains a clock, installed soon after its erection, which is said to be of French make, and which is still in use. This tower also contains the first bell brought to Vincennes and used in the former church edifice. The bell was cast in France, shipped to New Orleans, and from there brought on a flatboat up the Mississippi, the Ohio and the Wabash to Vincennes.

The side walls of the church were originally very plain, being relieved only by five simple window openings on each side. The Gothic-like buttresses which are now in place down each side were added in 1908 to stiffen the old brick walls which were spreading outward, due to settlement or other structural difficulty. The glass in the windows was originally of a frosted variety, of small diamond-shaped panes set in lead, and at the center of each was the figure of either a cross or a star. The entire window area was divided into two vertical panels by means of a central wood mullion, and the top of each panel was formed by a large circular area of colored glass. The extent and arrangement of the apse and sacristies, built about 1841 by Bishop de la Hailandiere at

the rear of the earlier structure, give accent to this important part of the old Cathedral. The interior is quite in harmony with the exterior. Simple in construction and arrangement, it depends for interest entirely upon the richness of the altars, furnishings and wall paintings mellowed with age, all of which, when seen in a subdued light, impart to the interior something of the glory of the smaller Old World cathedrals. The whole structure, in spite of its naive simplicity and almost archaic quality, has a certain dignity and charm about it that are in keeping with its one-time considerable importance in America.

The most important adjunct of the cathedral was the Cathedral Library, which was established at an early date, probably soon after 1834, when Bishop Brute took charge. Many of the best books belonged to him, and it is to this bishop and his successors that we are indebted for the collecting and preserving of the old records, documents and books. This library served the bishops in a practical way in the training of young men for the priesthood. The library building, which stands close to the cathedral church, was built in 1840. It is a simple brick structure, rectangular in plan, 40 by 20 feet, and harmonizes well with the larger structure, although it shows classical tendencies in its pilastered treatment. It exhibits a refinement and restraint that are pleasing and express admirably the purpose of the building. The entrance doorway is not on the street facade but on the opposite side, access being possible only from the private grounds at the rear. Although now preserved as a historical monument, this library was for many years in regular use by young men who were studying for the priesthood under the bishop.

These two buildings, together with the treasures which they house, constitute a most valuable heritage.



The Old Cathedral Library, Vincennes, Ind.



# New Apartments from Old Houses

By ROGER WEARNE RAMSDELL AND HAROLD DONALDSON EBERLEIN

THE title, "New Apartments from Old Houses," may, perhaps, convey a certain glamorous suggestion of "new lamps for old" and all the Eastern magic familiar to us from the pages of the "Arabian Nights." The magic of converting old houses of unalluring character into agreeable apartments, however, though quite as successful in achieving its ultimate results, is not of the instantaneous sort wrought through the instrumentality of talismans and obedient genii but is clearly traceable, at every step of its progress, to the combined common sense and creative imagination of everyday mortals prompted by the necessity of meeting a definite social and economic present-day condition.

The project of alteration has two distinct aspects. The one is purely architectural, while the other is economic and civilly reconstructive. The former calls into play the faculties of invention and insight into the latent opportunities offered by certain types of dwellings that have outlasted the functions for which they were originally destined, due to a variety of causes; the latter has to do with the problem of reclaiming decayed neighborhoods and other "waste areas" in our large cities, a matter that is yearly becoming more and more important. The two aspects are closely linked in some ways, but not so inseparably that we cannot consider them apart, and for our present purpose it is desirable to discuss them independently, however much both may tend to a common end, regarding first the architectural question, and afterwards taking into account its bearing with reference to "waste areas," found in every city.

The two instances here presented where apartments have been created by remodeling dwelling houses are both in New York, one at 420 East 50th Street, the other at 180 East 75th Street. In each case the waste space contained in the original buildings was utilized so that a vastly greater amount of service was derived from exactly the same area. The general characteristics of the kind of plan followed in the average city house of from 40 to 60 years ago are sufficiently familiar, so that there is no need for comment on that score. Inspection of the accompanying plans will show to what an extent interior structural changes have been necessary, and how far the rehabilitation has been achieved by merely a slight rearrangement of previously existing divisions or by the addition of partitions therein. In a process of this sort the readjustment of staircases, with means of separate access to the several apartments, is likely to be one of the chief difficulties to be surmounted. Well directed ingenuity, however, can cope with the problem successfully, as these instances illustrated prove. Number 420 East 50th Street, in its present form, contains three apartments. Apartment 1 is a "duplex," comprising the old basement

and next two floors. Apartment 2 is another duplex, occupying what were originally the third and fourth floors of the dwelling, and Apartment 3, consisting of a single story, is made up of a living room, two bedrooms, a bath, a kitchenette and a maid's room, all on the top floor. The main staircase retains its original place in the plan and, although it is intended primarily to serve the main entrances of the several apartments, there is also emergency access to it from every floor. Thus the solution of the chief problem.

The only outside alteration affecting the interior arrangement was the removal of the high flight of steps from the sidewalk to the front door on the main floor. The old basement entrance, at the street level, then became the front door, while the former vestibule and front hallway made room for the owner's bath and a large storage closet. In the course of remodeling the old front basement was made the dining room of Apartment 1, enough space being reserved for the entrance hall and the first run of the main staircase. The old basement kitchen, at the rear, was at the level of the back yard, and was the logical place for the owner's living room on account of its size, pleasant southern exposure, abundant light and proximity to what has now been turned into an agreeable garden from an erstwhile desolate tract of sheer ugliness. In the readjustment the sub-basement beneath has become the kitchen, and is abundantly lighted from a wide grated areaway outside the living room windows and garden door. A private staircase, ascending from the corner of the living room, connects the ground floor and main floor in Apartment 1, while another private staircase connects the two floors of Apartment 2, so that there is complete internal communication in these two apartments without using the main staircase. Apartment 3 has only one floor, and is reached by the main staircase, so that there is no occasion for any independent stair provision. The common heating arrangements, with coal storage and the maids' bath, are in the sub-basement, the only actual basement, with the kitchen of Apartment 1. Thus the planning of utilities.

At 180 East 75th Street the exterior changes were far more extensive. The high steps leading from the sidewalk to the main floor disappeared, as in the former instance, and the basement door at the street level became the chief entrance. But in addition to this, the whole facade of the building was changed by removing superfluous projections once considered ornaments, laying a stucco jacket over the dingy brown stone, and manipulating the factors of illusion so that the front assumed a totally different expression, although no drastic structural alterations were involved in the process of transforming the building.

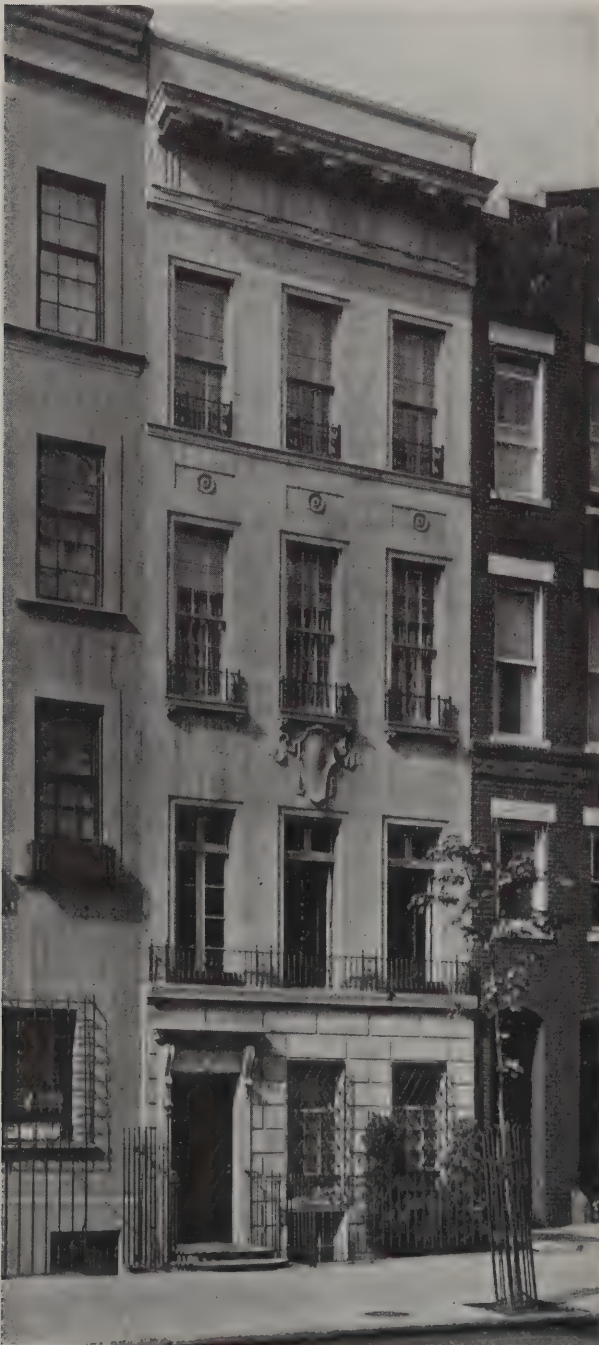
In the rearrangement within, the old basement, which, as already said, was on the street level, be-



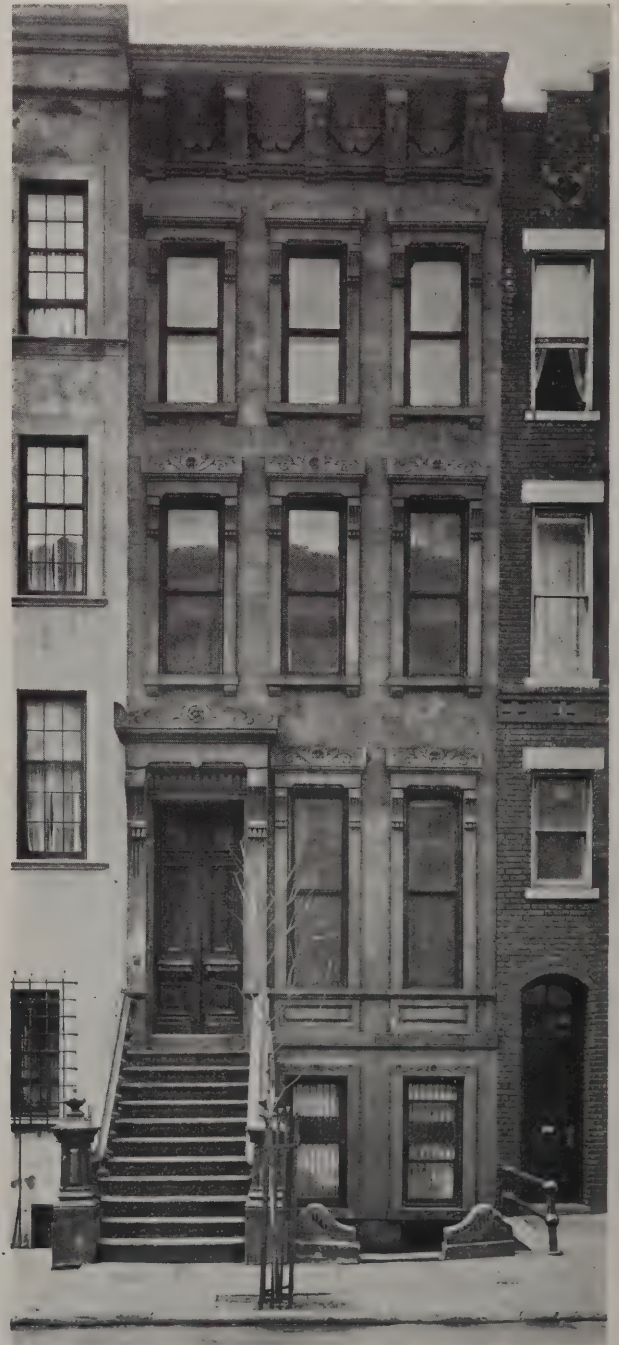
came the ground floor and was so divided that it contains in front a bedroom, a bath, and the private entrance and staircase of the first apartment, the living room of which is immediately above the bedroom and occupies most of the space devoted to the drawing room in the original plan. The private vestibule of the second apartment opens from the common entrance hall on the ground floor and gives access to a large living room with full length windows overlooking the garden, which from its previous dreary estate has been converted into a place that is really sightly and agreeable, as a garden should be, and as even a city garden *can* be. Directly above the living room are the bedroom and bath of

the second apartment. The ground floor and first floor are thus occupied by two very agreeable small "duplex" apartments. The upper floors are somewhat differently arranged, but each duplex apartment has its own private stairway as well as access to the main or general staircase and its hall on each floor.

It now remains to view the economic aspect of the situation. To begin with, anyone at all familiar with conditions in our large cities cannot fail to be aware of the existence of many districts that may be called "waste areas," "decayed neighborhoods," "inactive sections," or whatever other name can be devised that seems more accurately to define their status. Such localities perhaps once enjoyed high



After Remodeling



Before Alterations

House at 180 East 75th Street, New York  
Remodeled by Harry M. Clawson, Architect



popularity as desirable places of residence, but subsequently lost their prestige. Sometimes the change can be traced directly to certain altered economic conditions. There may have been a gradual invasion of small shops, or else the relentless advance of great mercantile and manufacturing interests may have crowded in too closely, disquieted the residents and sent them trooping elsewhere, leaving "backwaters" untouched by the current of commercial onrush and yet bereft of their former tenants and sources of upkeep. Again, the change can sometimes be accounted for only by the caprices of fashion, a fickle but potent agency, to whose charge can be laid many a freak of development in large American cities.

At all events, we know only too well the rows of city dwellings whose original occupants, those for whom they were built, have long since forsaken them for other quarters more fashionable or more to their taste. These dwellings have apparently seen their best days; dilapidation and dinginess have set their impress upon their fronts, and within they have become tenements for families or individuals of a type not contemplated when they were erected, and for whose accommodation they are not in any wise fitted. It may be they have fallen into the rank of cheap, shabby boarding houses; have become, perhaps, the quarters of nondescript organizations, charitable or otherwise; or here and there they have yielded a basement or part of a ground floor to petty tradesmen with ephemeral businesses. In any case, the fact remains that these properties are not really profitable possessions from the owners' point of view. Although they may have an appreciable value, that value



Garden Facade; House at 180 East 75th Street, New York



The Main Entrance



A Dining Room

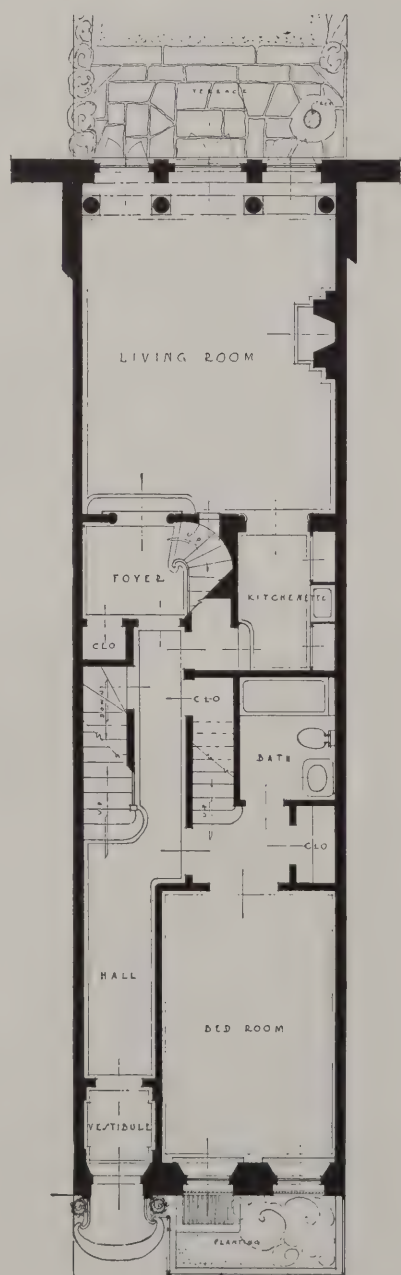
is not as substantial as it should be, and not as substantial as it would be, could they and the neighborhoods of which they are the individual units be classed in a more desirable category. Neither are they as good an asset as they might be to the municipality, for their assessed values do not keep pace with the assessed values of properties in a more attractive environment. Furthermore, their value is likely to grow relatively less all the time, unless the process of decay be arrested and some active agency of redemption be brought to bear. They are waste and unprofitable, so far as the compact and complex

economic organization of the community is concerned, and will remain so, or become worse, until rehabilitation takes place and lifts them out of the mire. In every large city such localities exist.

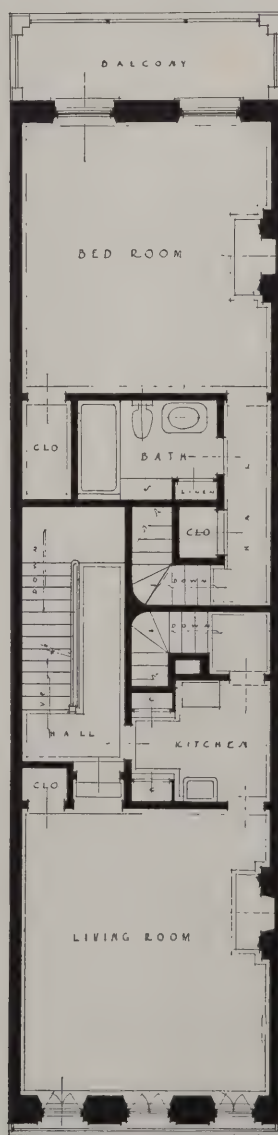
Now and again the objection is seriously made, by folk with a *laissez faire*, fatalistic turn of mind, that a wrong is done the present denizens of decaying neighborhoods by dispossessing them of the quarters they are rapidly turning into slums and by reclaiming the places for decent habitation in accord with the changed social and economic conditions of the present time. If such folly requires an answer,

it may be pointed out that it is always praiseworthy and of the very essence of progress to make any existing material conditions better than one finds them,—to make two blades of grass grow, so to speak, where only one grew before. No one, surely, will argue that such examples of neighborhood rehabilitation as "Sutton Place" or "Turtle Bay" are to be regretted. It needs no vivid imagination to picture what Sutton Place and Turtle Bay would be by the present time if the decay that had already set in had not been arrested and a course of thorough regeneration inaugurated; nor does it require profound financial acumen to estimate what property there would have been worth now either to the owners or as a source of tax revenue to the city. Yet, if the fatalistic fallacy had prevailed, Sutton Place and Turtle Bay would have been allowed to go steadily down hill. It is no kindness to relinquish a neighborhood to tenants who are causing it to deteriorate. It is simply a stupid blunder. Tenants who are misfits and really not comfortable in their quarters, which are not fitted to their mode of life, are infinitely better off elsewhere, even though they may have no "model slums" to repair to. Perhaps some day we may arrive at the achievement of truly model slums. At any rate, it is doing them a genuine service to prevent them from creating new and larger slums.

There is an unfortunate tendency inherent in most



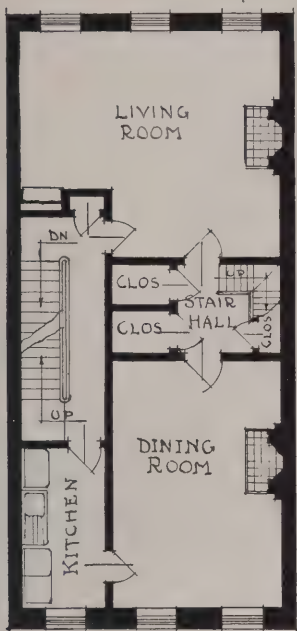
First Floor



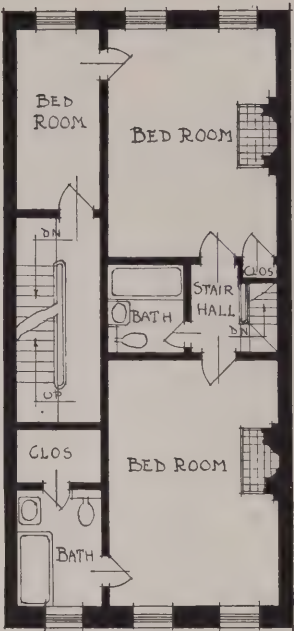
Second Floor

Plans, Two Apartments at 180 East 75th Street, New York  
Harry M. Clawson, Architect

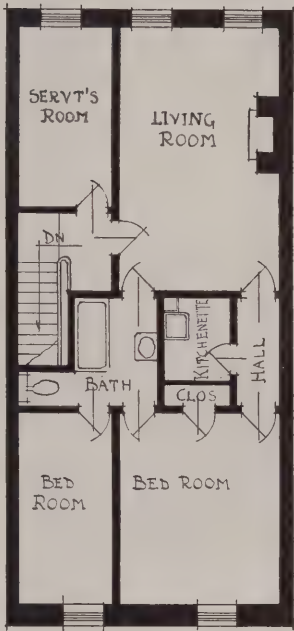




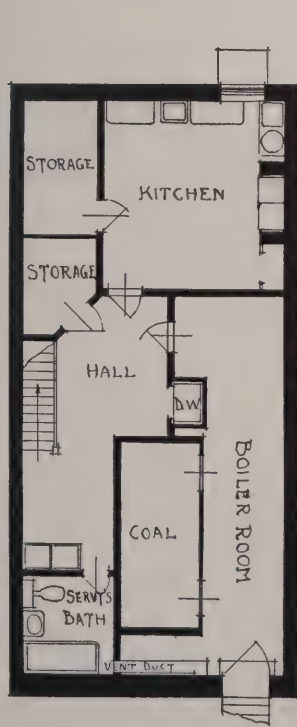
Third Floor



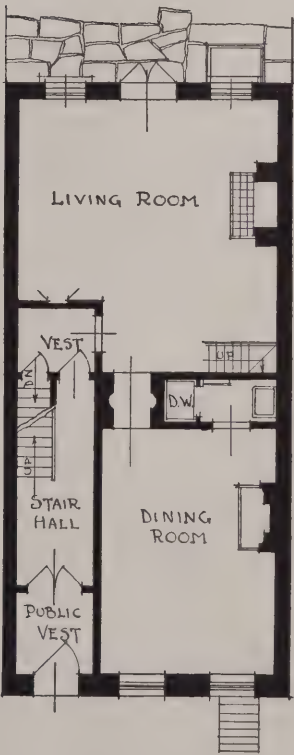
Fourth Floor



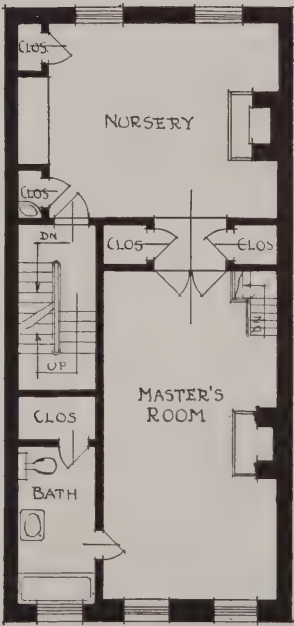
Fifth Floor



Basement



First Floor



Second Floor

Plans, Remodeled Residence at 420 East 50th Street, New York  
Franklin L. Kline, Architect



Living Room, First Floor Apartment, 420 East 50th Street, New York

towns and cities built by people of Anglo-Saxon blood, a tendency to sprawl and straggle, leaving behind the outlying districts areas imperfectly developed that soon begin to decay. This tendency is traceable to certain traits of Anglo-Saxon character. The remedy is to be found in a subsequent process of consolidation. The problem of systematic con-

solidation of urban "waste areas" is one that nearly every city, sooner or later, is obliged to face. In New York the problem happens to be particularly acute, owing to the dense population of the city and the physical constriction of its limits. As one method of coping with this problem, the remodeling of old houses into new apartments has evidenced success.



Living Room, Apartment in House at 420 East 50th Street, New York



Dining Room, Apartment in House at 420 East 50th Street, New York



# THE BUILDING SITUATION

## A MONTHLY REVIEW OF COSTS AND CONDITIONS

THE month of June, showing well maintained building activity, closes a six months' period which again establishes a high record for any similar period of building industry in the United States. According to figures of the F. W. Dodge Corporation and other authorities, it is evident that the round figure total of new building for the first six months of 1926 is approximately three and a half billion dollars, being about 15 per cent greater than for the first six months of 1925. The month of June records for the country new building construction amounting to approximately the sum of \$948,000,000.

While there has been considerable talk of the slowing up of building activity, it is quite evident that there is no very definite slowing up in evidence. On the other hand, it is obvious that the present pace cannot be maintained indefinitely, because there must be a limit to the capacity of building labor in this country, and as costs are increasing again because of this situation, it is probable that many wise prospective investors will defer their projects. It will be a good thing for the industry if this occurs, and a more general distribution of building activity over the

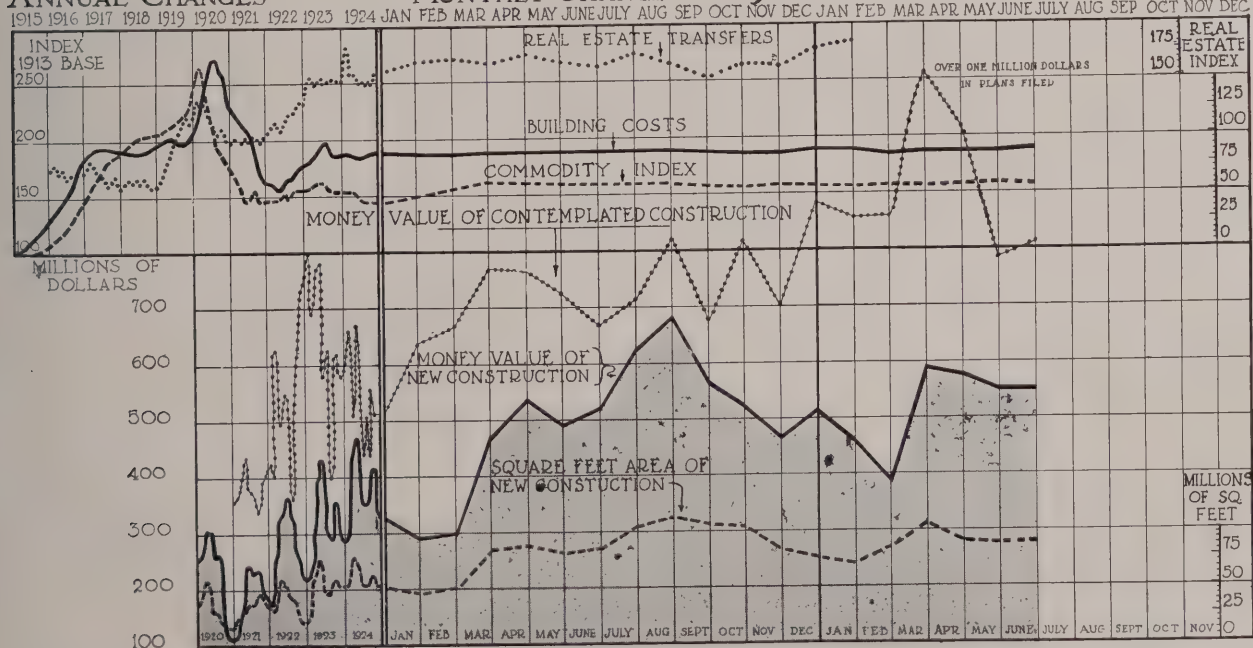
next few months will aid materially in relieving a strained situation, both as to labor and the production and distribution of materials. Architects are advised that it probably will be wise to defer projects for two or three months, unless the local labor and material situation is elastic enough to allow for favorable bidding on the part of the contractors.

The contemplated construction during the first six months of 1926 is the highest on record in any year, and for the month of June totaled approximately \$807,000,000, which is 16 per cent above even the vast amount represented in the month of June, 1925.

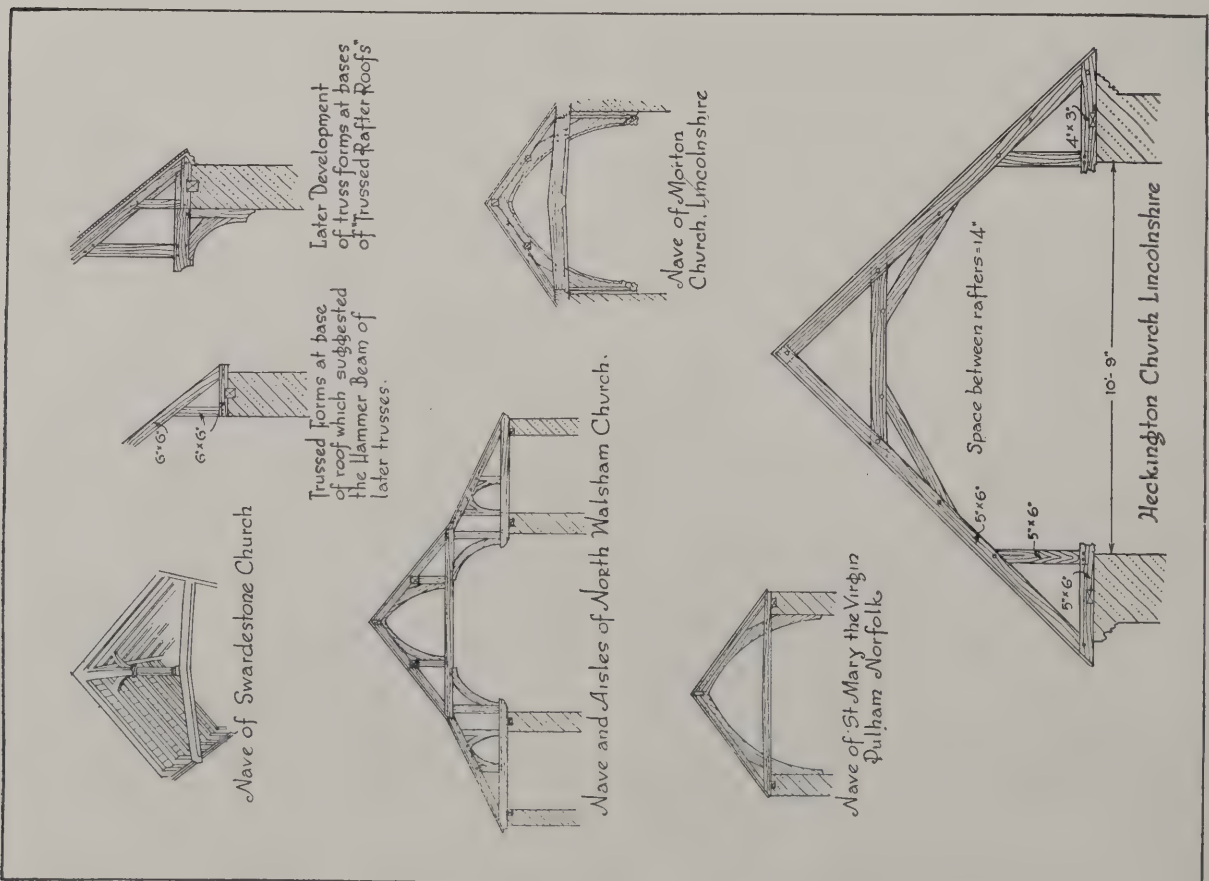
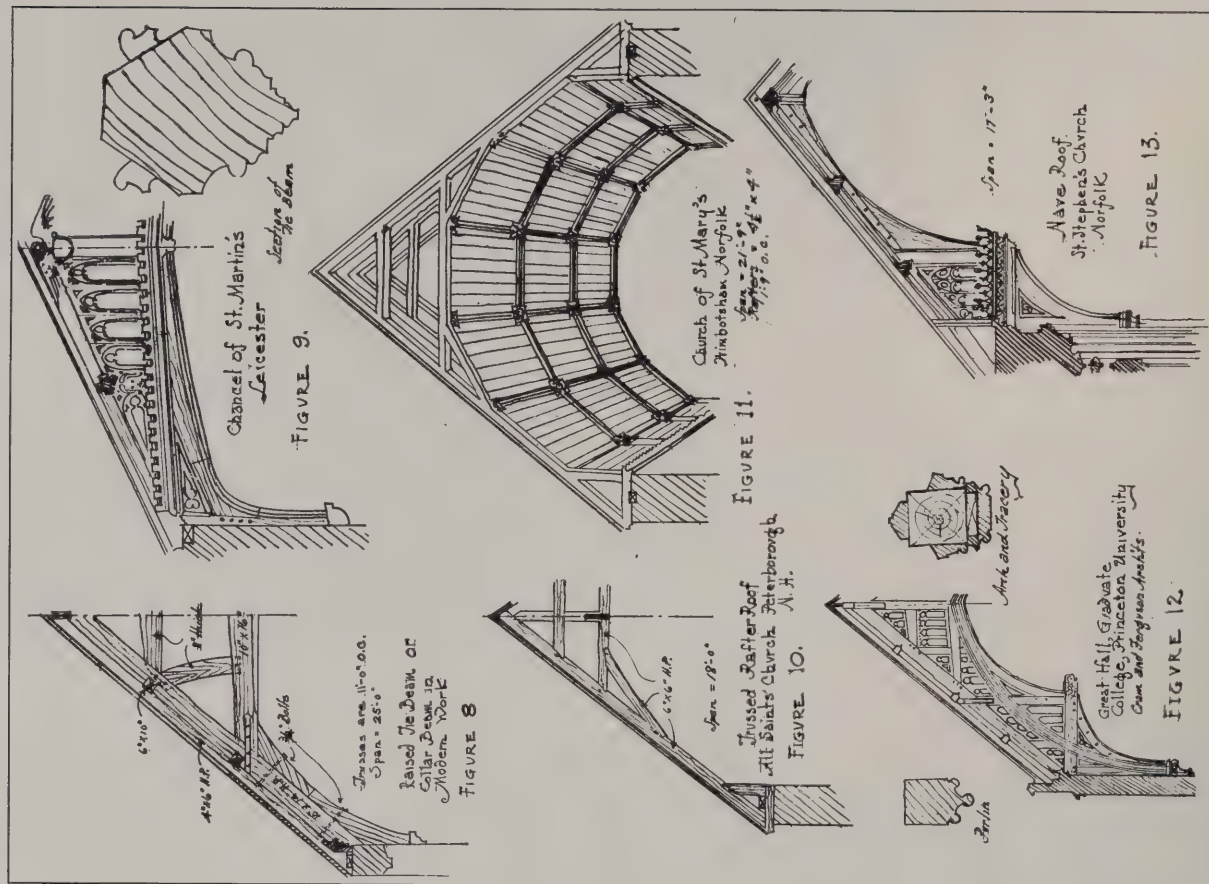
The attitude of investors in mortgage bonds, the proceeds of which are used to finance new buildings, continues on a sound basis of interest, and with other funds used for mortgage purposes, it is evident that the financing progress continues on as strong a basis as ever. The mortgage companies are constantly ready to handle new projects and are not curtailing funds, although the economic viewpoint is being more carefully studied than ever, and financing is not available for over-built districts or for projects not effectively designed and well planned.

### ANNUAL CHANGES

### MONTHLY CHANGES 1925



THESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs*. This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index*. Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction*. Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record*. (4) *Money Value of New Construction*. Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction*. The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.



OLD ENGLISH OPEN TIMBER ROOFS OF DIFFERENT TYPES



# The Designing of Open Timber Roofs

By E. T. P. WALKER

AS we look over the achievements of church architecture in recent years it seems that of all its various departments the study of open timber roofs, as revealed to us in the beautiful examples of mediæval architecture, has received the scantiest attention. Many of our churches of the twentieth century are excellent in general design, in mass and in detail; many have beautiful proportions of nave and choir, exquisitely designed sanctuaries and entrance portals, but how very few have beautiful, honestly constructed roofs! It may be that most of the other parts of a church present inviting possibilities to the artist and craftsman, whereas the problem of spanning a roof has been very largely left to the solution of the engineer.

From a purely architectural point of view it is poor practice in a building of any character to construct a thing in steel or concrete and then attempt to deceive the beholder by covering it with a wood casing. This method of designing may deceive, but it does not convince. On close study such woodwork is found to lack all of the qualities which contribute so much real, innate charm and beauty to the old woodwork of English and continental churches,—the variety of chamfers, the life-giving qualities of the surfaces of plain faces and mouldings, the checks and sincerity of the graining, and the depth of the material. Another point that may be touched upon in this connection is the appropriateness of design for the problem at hand. When steel is used the properties of the steel alone are considered, and often the wood forms, if really solid, would fail utterly to do the work which they pretend to do. And we find in such work many examples where, if wood alone had been used, the design of the framing would have been entirely different. It is safe to conclude that had such been the case the problem would have been studied with due regard to the properties of the materials, and the results would have been immeasurably finer and more architectural.

The need of a close study of early roofs is very manifest when we realize how excellent these models are and how fully they answer our own requirements in matters of construction. It is not for us to slavishly imitate, but it is for us to study the examples still left to us with an idea of mastering the principles of their inherent qualities of law and order, whether they have to do with exterior embellishment or inner construction. The sacred edifice is and should be the assembling place for the best in all the various arts. As we study the mediæval churches we find that no art has made more notable achievements than that of building the roof; there is no portion of a building, ecclesiastical or secular, requiring more skill in its construction and more thought in the designing of its ornament.

Mankind was in an early stage of barbarism when the necessity of having some place of shelter was first experienced. The origin of covered habitations is lost in the twilight of history. The earliest forms of shelter must have been rude indeed. When the hollows of trees and the recesses of caverns failed him, it is probable that the savage devised nothing better than he could construct from the boughs of trees covered with skins, or moss and twigs, or mud and clay. These earliest forms were steps in historical development and are exceedingly interesting in that, crude as they were, they furnished ideas which led to later results of great architectural importance.

The simplest and earliest type of roof was that formed by two rafters pitching against each other. It soon became apparent, however, that this type of construction was defective because the rafters had a tendency to spread and thrust outward the walls on which they rested. This led to the use of the tie-beam; which has been used in all periods and which is still the best of all constructions when the roof is hidden from view. It may be observed that the tie-beam roof was never entirely discarded by mediæval builders. The trussed-rafter or single-framed roof, the roof framed with hammer-beams and braces, and the roof constructed with collars and braces all followed in the later development. But we find constantly recurring in the Norman, Early English Decorated and Perpendicular periods the use of the simple tie-beam form. In its earliest examples the tie-beam was sometimes used independently of the other roof members, being laid across the walls and anchored to the wall plates. Examples of this may be seen in the Church of St. Mary the Virgin, Wighall, Norfolk, and in the south chapel of Bredon Church, Worcestershire. Later examples show various expedients arrived at by the builder to make this simple form an ornamental feature in the design. At Southfleet Church, in Kent, the tie-beams are beautifully moulded; in the chancel of Northfleet Church the tie-beams are left in their natural hand-hewn surfaces, while the roof above is beautified with trussed rafters, panels and moulded ribs with bosses. Such a form possesses great possibilities.

The design of the tie-beam roof was changed in succeeding periods so as to harmonize with the rest of the architecture. In roofs of low pitch the beam frequently carried the weight of the whole roof, as in the case of that of the large south aisle of St. Martin's Church, in Leicester. A similar roof is that of the south chapel at St. Nicholas' Church at Kiddington, Oxfordshire. Here there is a massive beam well moulded on the soffit and connected with the wall pieces by moulded curved braces; the purlins rest directly on the beam, and the ridge is also supported on it by a strut or king-post and strengthened





A Beautiful Though Comparatively Simple Open Timber Roof

by short curved braces. The church at Higham Ferrars, Northamptonshire, is of the Decorated period. The tie-beam is cambered and with the short curved braces forms an arch. The cornice and rafters are simply but effectively moulded. In roofs of higher pitch the arch shape is retained in connection with the tie-beam. In the nave of Morton Church, Lincolnshire, the beam and the arch are equally emphasized, and on this account the result is lacking in beauty and order. In many tie-beam roofs the arch form was entirely omitted, as in Swardstone Church, in Norfolk. The design includes a boldly cambered beam supporting a small king post with cap and base and curved braces springing to the principals and ridge. This is an interesting example of use of a simple form, one well adapted to the problem.

The roofs over North Walsham Church in Norfolk are beautiful examples of the tie-beam construction without any surface ornament. The beauty of this work is the result of a very scientific and correct use of timbers. It shows ingenious framing, but nothing of a superficial character. The ties of the aisle roofs pass through the

walls and form corbels for the wall braces which, in turn, support the tie-beams over the nave. The Chapel of St. Anne at Arlington Heights, Mass., and the chapel at Greenlawn Cemetery, Nahant, Mass., both designed by Cram & Ferguson, are good examples of modern work done in the true spirit of Gothic architecture.

As we trace the development of the roof framing through the ages we find that the roof with diagonal ties follows closely upon the tie-beam form of construction. It was more widely used and was sometimes substituted for earlier forms when discovery had been made of its superiority of construction and of the additional height and opening of the roof space which it made possible. In roofs of wide spans each pair of rafters had a collar which was stiffened by braces. Sometimes the braces occur above the collar, and at other times they are tenoned into the rafters and soffit of the collar. The nave roof of Ely Cathedral furnishes a good example of this method. Here we find each pair of rafters trussed so that from below it is a richly wooded roof suggesting in its long parallel curves the form of an arched ceiling. The church at Peterborough, N. H., by Cram & Ferguson, pre-



Open Timber Roofing; Graduate College, Princeton  
Cram & Ferguson, Architects



sents a noteworthy example of this type of construction in modern work. In this instance the constructive forms have been carried out just as in work of this kind in the middle ages; the timbers are solid throughout, mortised, tenoned and halved together and held securely by oak pins.

In roofs of this character the rafters usually extended over the outside edges of the walls to form the roof cornices on the exteriors of the buildings. Because the walls were thick and finished horizontally at the lines of the plates, great openings were left on the interiors between the tops of the walls and the underneath sides of the rafters. The builders introduced a strut on a line with the inside wall to give additional support to the rafters and to more firmly secure the entire roofing system to the wall. The addition of these vertical struts above the wall gave additional value both constructively and artistically to the roof in its completeness. An additional horizontal timber resting directly on the wall and connecting the vertical strut with the rafter completed the triangle and gave to the roof on each side a firm trussed base and obviated any danger of the truss spreading at the walls. Some students regard this simple form as



Nave of Chapel at Nahant, Mass.

Cram & Ferguson, Architects



Choir; St. Anne's Chapel, Arlington Heights, Mass.

Cram & Ferguson, Architects

very important in the history of events, as it undoubtedly supplied the idea for the development of the hammer-beam truss, which followed later.

In many of the old trussed rafter roofs boarding was applied underneath the rafters, braces and collars, and formed coved or polygonal ceilings divided into panels with engaged mouldings and further enriched with carved bosses at the intersections. In some of the work the tie-beam was retained, as in the chancel of Sandridge Church near St. Albans, Herts. But in work of the Early English and Decorated periods, we find the tie-beam omitted and use of trussed rafters characteristic. The spaces between the rafters varied from 12 to 20 inches.

Some authorities have regarded the hammer-beam truss as a tie-beam truss after cutting away the central portion of the tie-beam. There is a similarity, at first thought, though it cannot but be regarded as erroneous to make this comparison, for the constructive principles of the two trusses entirely disprove such a theory. It is more logical in terms of construction, to regard the hammer-beam as a development of the trussed rafter base which has just

been described. We have no examples of the hammer-beam truss making use also of the tie-beam. The earliest example we know is the magnificent truss in the roof of Westminster Hall, completed in 1399. This differs from all earlier roofs in the use of large main arches of timber springing from the bottom of the wall pieces and uniting at the soffit of the collar-beams. The hammer-beams and struts run through this arch, and their braces complete the form of a trefoiled arch. This particular example is so perfect that it is hardly possible that it was the beginner of the style. The various examples which must have intervened between the times of building the earliest trussed-rafter examples and this superb truss, the culmination of the type, have been lost to us. Use of the hammer-beam trusses did not begin until late in the fourteenth and were not generally used until later in the fifteenth century. In the early examples the curved braces were usually of the same thickness as the main rafters of the truss; in the later examples they were usually 3 or 4 inches thick, and occasionally thicker.

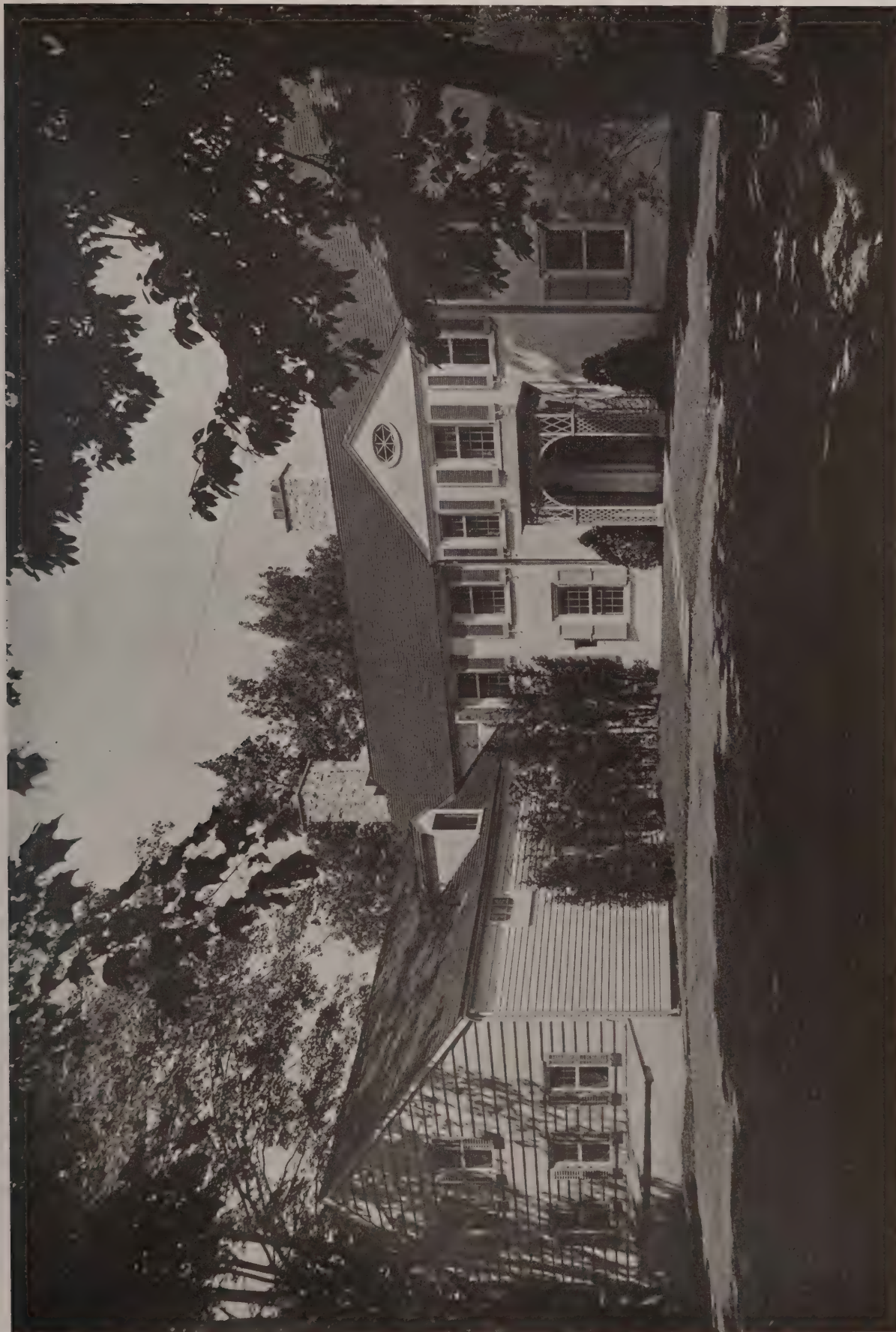
Having once discarded the tie-beam, the English church builders, moved with the startling beauty of the latest form, carried to a perfection that has never since been attained the wooden roof in its most excellent forms. In this phase of architectural beauty England is unrivaled. Whereas the continent has examples in all the other departments of ecclesiastical architecture that far surpass the English work of the same nature, there is no work having examples of open timber ceilings that can equal those of almost any county in England. The very best example in our work of today, a roof which can stand comparison with the best of English examples, is that in the dining hall of the Graduate College at Princeton University, designed by Cram & Ferguson.

Open timber roofing is particularly useful in these days of high building costs, in that it adds architectural richness and dignity to a building for vastly less than would necessarily be paid for vaulting of any kind. Especially when color is used upon roof of open timber, there is secured an appearance of splendor satisfying out of all proportion to its cost.



A Modern Example of Use of Open Timber Roofing





*Plans on Back*

HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS

*Photos, Kenneth Clark*



SECOND FLOOR



PLOT AND FIRST FLOOR

PLANS, HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS





GARDEN FACADE  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







THE ENTRANCE  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







TERRACE AND GARDEN FACADE  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







END ELEVATION FROM ORCHARD  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







THE DINING ROOM



FIREPLACE END OF DINING ROOM  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







ONE END OF THE LIVING ROOM



A VIEW OF THE LIVING ROOM  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS







THE END ELEVATION



DETAIL, ENTRANCE FACADE  
HOUSE OF MRS. A. C. BALDWIN, BEDFORD HILLS, N. Y.  
BUTLER & CORSE, ARCHITECTS





# SMALL BUILDINGS

## A Theory Relating to Spanish and Italian Houses in Florida

By HOWARD MAJOR

I HAVE lived in the peninsula of Florida for several years, and for the past decade have been a frequent winter visitor. I have often wished to express an opinion of the error of Florida's ways in architecture, hoping that some good may thereby be done. I suppose naturally there is another side to the question, but personally I consider the houses, and particularly the small, so-called Spanish and Italian buildings, nothing more than aberrations. These bad houses springing up everywhere are a sure indication that the American public and carpenter-builders are fumbling with a foreign element. These same people, given a small Colonial house to build in Florida, would exhibit an intelligent understanding, as is seen elsewhere throughout America. Theoretically, there are stronger reasons why the Latin masquerades should cease. Today Florida is the melting pot of the union, the cosmopolitan state. Should not a cosmopolitan public exhibit a strong nationalism? Should not the house itself be in its national style of architecture? Yet here, staid Florida citizens of the type immortalized by Sinclair Lewis,—realtors, rotarians and chamber of commerce members,—see fit to house themselves in baby pink, Alice blue and sea green houses, which they fondly believe to be of either Spanish or Moorish architecture. Curiously enough, these Babbitts consider their environment appropriate; but to me it is as incongruous as to see them dressed in the habiliments of a sheik or of Don Juan, having no relation to present conditions.

America has, everyone now knows, a fine architectural traditions, that of the colonial period and

of the early republic. It is the architecture which we are further developing today. It is our national style. One may easily go a step further, since the Colonial style was brought over from the mother country, and say that the English-speaking races have a national architecture, differing in expression in various localities, but similar. Granted, then, that we have our national style, can it be adapted to the climatic conditions of the semi-tropics? The houses of eighteenth century Charleston, with verandas and balconies for each floor, are most fittingly suited for Florida's climate. The planters' homes of the early republic throughout the "cotton belt" are admirably planned for the tropical summers throughout Georgia and Alabama. These houses have balconies and verandas between or behind colossal colonnades, either in front of or completely encircling the buildings. These well shaded second-floor balconies would furnish cool retreats for a Florida summer. In these houses the rooms are very high-studded, which, together with shaded facades, ensures cool interiors. With these two types Florida need have no other source to draw from. The public and builder should have a natural understanding of such architecture, and could produce from this precedent creditable architecture for the critic to praise as fulfilling all the requirements.

However, Florida has other sources to draw upon, that if not American, are closely related. The lovely architecture of Bermuda; of Nassau; of Trinidad; of Barbadoes and of Jamaica:—all sister colonies of America in the eighteenth century. Nassau and Bermuda are swept by the same Gulf Stream that



Thousands of examples like this Florida house illustrate the unfortunate results of adopting an architecture unsuited to the temperament of the people



LIVING ROOM, RESIDENCE OF HORACE CHASE, ESQ., PALM BEACH  
HORACE CHASE, ARCHITECT





GARDEN FRONT, RESIDENCE OF HORACE CHASE, ESQ., PALM BEACH  
HORACE CHASE, ARCHITECT





Patio, House of Marion Sims Wyeth, Esq., Palm Beach

makes Florida famous, and all have the same climatic conditions. One often hears: "Why not Spanish architecture in Florida? The Spaniard first settled this section." So he did, and so also did he settle Bermuda, Trinidad, Nassau and Jamaica. Then the Englishman came and pushed him into the sea. But did the Englishman carry on the Spanish tradition? He did not. The English and Latin races have very different ideas. The English race craves fresh air; the Latin studiously avoids it. In a sleeper upon a Latin railroad, have you ever tried to open a window with a Latin in the upper berth? If you never have, I would advise suicide as a more pleasant experience. Just so in their homes; the Spaniard builds a house with splendid wall surfaces,—walls of extreme thickness, and with small windows,—windows that are barred with shutters through the heat of the day, so that the cool, damp air is confined indoors. The Englishman, in the tropics, builds homes fronted with or surrounded by two-story balconies, often latticed to effectively exclude the burning sun, but open to readily allow every breeze to circulate throughout the house. Similarly the American craves fresh air, which is another strong argument for the elimination of Spanish architecture in Florida. Every architect designing a house in Florida remembers the client exclaiming: "I want a Spanish house, but I want



Photos. F. E. Geisler

Loggia, Residence of Marion Sims Wyeth, Esq., Palm Beach

Marion Sims Wyeth, Architect



lots of large windows and sleeping porches." Can you imagine a Spaniard using a sleeping porch? He would consider even the thought barbarous. And how can a house be Spanish in character with many and large windows? It simply can't be so designed.

All this being true, what was the motive behind this Latin movement? About ten years ago an architect from New York was called upon to do a palatial home in Miami. Here was his opportunity for a bully good time,—and he had it; but he did not for a moment consider the havoc it would play within the next decade. Then about nine years ago, another architect migrated to Palm Beach, and built a beautiful club house. In Palm Beach the winter visitors had this artistic edifice to compare with the staid old wooden facades of the "Breakers" and "Poinciana" hotels, and a few shingled "bungalows." At this time it began to be the vogue for wealthy visitors to build winter homes. They, without exception, wanted houses in the Spanish style, like this artistic club. For this wealthy class it had good points;—people who had city and country homes in the north designed in the Georgian style, but who, for their two months in Florida wanted to live in something different. One enjoys the Everglades Club costume ball for the night, but one does not want it for 365 nights in the year. Neither do I believe that this wealthy, educated class would want



Detail, Dining Room, House of Nelson Odman, Esq.,  
Palm Beach



Photos. Mattie Edwards Hewitt

Loggia, House of Nelson Odman, Esq., Palm Beach

Howard Major, Architect





Photos. F. E. Geisler  
 "Tap Room," House of George Dobyne, Esq., Palm Beach  
 Marion Sims Wyeth, Architect

to live in their Spanish stage settings 365 days in the year. However, the vogue spread like wild-fire, and since it began, every house, irrespective of cost, has been built in this Latin style, so that the pathetic part of it is that the good, wholesome working man does have to live in these abortions 365 days in the year, whether he wishes to or not.

Latin architecture is far easier for the average architect to design than Colonial or Georgian architecture. Basically it is a picturesque style. In the north, if we have an English house to design, it is clearly defined that it shall be either Tudor, Renaissance or Georgian; or if Georgian, late seventeenth century, early eighteenth century, middle eighteenth century, late eighteenth century, or early nineteenth century. If in Florida a Spanish building is to be designed, it is "Spanish" and that is all. Anything from thirteenth century to early nineteenth century is included, and not infrequently in the same house. There seems to be no idea that a building's design should be confined to a period of time. This, I should say, is the paramount objection to the better Florida houses. A natural outcome of this flirting with early Renaissance forms has been the coarsening of houses with bastard ornament in lieu of the well thought out details and composition needed.

I have said that the Spanish is a simple style to design in. Of course I mean as applied to



Photos. Mattie Edwards Hewitt

House of Howard Whitney, Esq., Gulf Stream Golf Club

Howard Major, Architect



eighteenth century types, for I believe this is the point where we should take up all tradition. Gothic and Renaissance are, from merely economic reasons if for no other, out of the question. First to be considered is of course the plan. The Spanish house, where its size permits, includes a patio, or room without a roof. This patio is the brilliant contribution of the Latin. The patio, being an outdoor room, should have the dimensions of a room. The mistake in the Florida house is that the patio is so large that it is a court rather than an outdoor room. It should approach a square in plan, 25 by 25 being quite sufficient, or 30 by 30 in the largest houses. It should be paved and have potted plants, and not be a garden, as it is in the prevalent Florida interpretation. It may be quite small and still be in excellent taste. Around the patio should be overhanging balconies, loggias and cloisters, for the exterior of the Spanish house is always bare and devoid of such intimacies. The small rectangular house does not allow space to include the patio. A poor substitute, which is often attempted, is completing the enclosure by means of two walls affixed to the small ell-shaped house. The Latin patio is an inside, open-air room. It is surrounded on four sides by the building. This American version of two sides building and two sides wall is a makeshift, and not really in character with its prototype.



Detail, House of George Dobyne, Esq., Palm Beach  
Marion Sims Wyeth, Architect

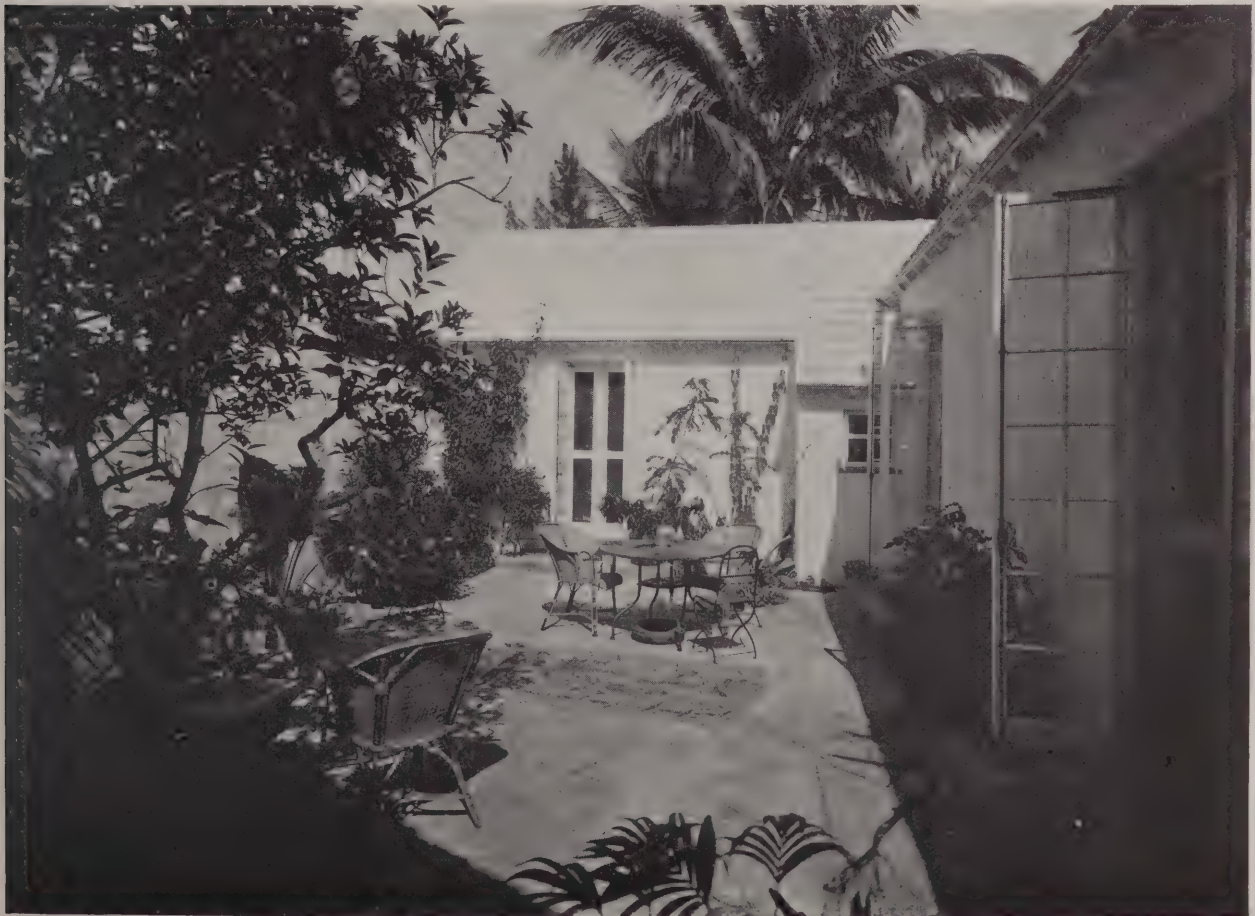


Photo. F. E. Geisler

Patio, House of Maitland Belknap, Esq., "Major Alley," Palm Beach  
Howard Major, Architect



After the plan is determined, simple, well proportioned roof masses are to be considered. If the house is large enough, a few picturesque breaks should occur, for the Spaniard knew how to take full advantage of picturesque roof lines. The texture of Spanish tile roofing is so lovely that with a well composed roof the problem is about solved. To complete the design, compose in a direct manner the windows and entrance doorways, relieved, if necessary, by balconies or grilles, and the problem is finished. Cornices are unnecessary, and should not appear in the modest dwelling. Enframed and ornamental doorways are also unnecessary in small houses. If a client's money must be squandered, do it by adapting the lovely iron grilles and balconies of the Spaniard. Another outstanding decorative feature of the Spanish dwelling is the hanging wood balcony with its tiled roof, which usually extends from 3 to 4 feet from the facade on a level with the second floor, the floor beams cantilevered through to carry it. These beams are not of the usual 2 by 12 inches but

range from 6 by 8 to 6 by 10 inches, and are often shaped and carved, but in a simple manner. They terminate carrying a turned railing between chamfered uprights, spaced 7 to 8 feet apart, which, in turn, support corbels, upon which rests the roofing.

Too much cannot be said of the charm and interest of the patio. The exterior of the Latin building is cold and forbidding, but a glimpse through the half-open doors, through the house into the patio, usually shows a lovely garden room of flowers, glazed tiling and fountains. The sense of absolute privacy out of doors, under the tropical blue sky is perhaps its most charming feature. The transformation from bare, austere masonry exteriors to the intimate details of inviting loggias and balconies comes as an unfailing delight. The desire is universal to have just such a patio, and in the climate of Florida it is justifiable. If Colonial or British West Indian architecture is to supplant the Latin, then we must introduce the patio into it, which is easy to accomplish and entirely appropriate and consistent, and therefore wholly desirable.



Photo. F. E. Geisler

Small Houses in "Major Alley," Palm Beach, Illustrating Use of "British West Indian" Architecture  
Howard Major, Architect

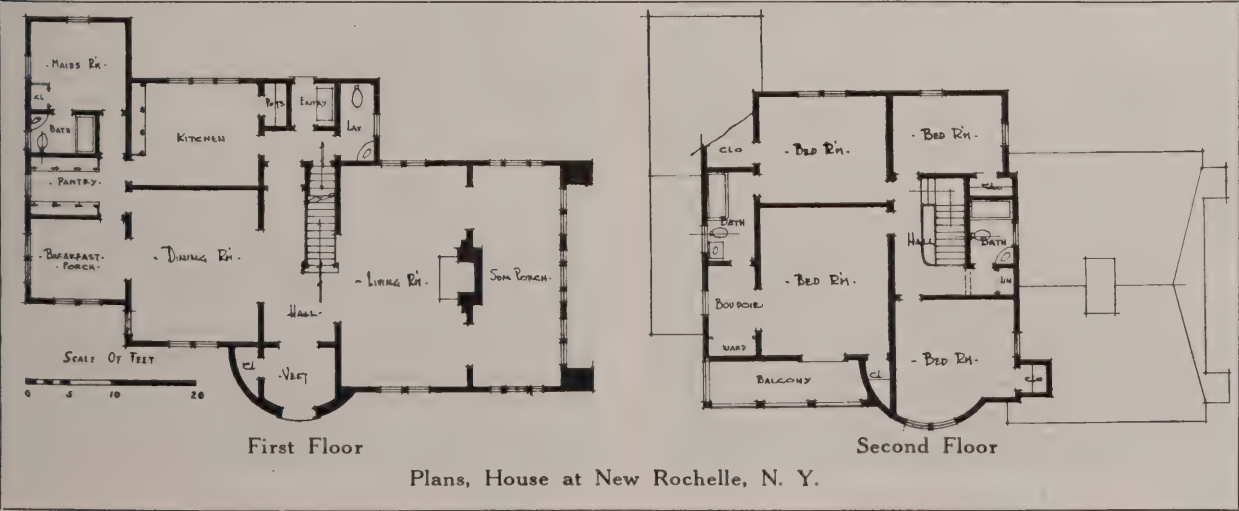




A HOUSE AT NEW ROCHELLE, N. Y.  
D. A. SUMMO, ARCHITECT

THE much-discussed question as to the appropriateness of the use of Spanish and Italian architectural styles for houses located in the New England and middle states will not be taken up in considering this group of small houses which follow in design what is often termed today "Mediterranean" architecture. There are rugged picturesqueness and consistency in scale which commend the design of this house in New Rochelle to favorable attention. Heavy red tile roof, rough-finished stucco, crude wood window shutters and heavily

framed overhanging balcony give this house a character strongly suggesting the farmhouses of northern Italy. Another pleasing variation from the usual small house is in the irregularity of the plan. This to a certain extent is suggested in the elevations. In the semi-circular bay or half tower on the first floor is located an entrance vestibule leading into a center stair hall. A living room and sun porch occupy the low one-story wing at the right of the front door. A dining room and kitchen, together with a breakfast porch, pantry, maid's room and bath occupy the



## FORUM SPECIFICATION AND DATA SHEET—128

House at New Rochelle, N. Y.; D. A. Summo, Architect

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Stucco.

## ROOF:

Tile.

## WINDOWS:

Wood.

## FLOORS:

Hardwood.

## HEATING:

Hot water.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Lighting

## INTERIOR MILL WORK:

Chestnut.

## COST PER SQUARE FOOT:

\$60.

## DATE OF COMPLETION:

June 1, 1926.

space on the first floor at the left of the entrance. Stairs to the cellar lead down under the main stairway. A small lavatory is located at the back of this stair hall, adjacent to a rear entry, the door of which opens onto a graveled forecourt. The illustrations included here are all of the front of the house, and so do not show the rear entrance. On the second floor are four bedrooms, a boudoir and two baths, all of which come in the main part of the house, over the front hall, dining room, pantry and kitchen.

The treatments of the windows in the living room and sun porch are not particularly Italian or Spanish, but they indicate a concession to the

demand of most clients today that there shall be as much light and air as possible in a country house. The extension of the main walls of the house beyond both the sun porch and the corners of the main part of the building may add an unusual touch to the design, but hardly serves any logical or consistent purpose, with the exception of the buttress-like projection on the upper corner of the second story, which gives space for a closet to the bedroom located at this corner. The use of these buttresses prevents the unbroken continuation of the wide overhanging eaves, which treatment adds much picturesque charm to many houses built in the Mediterranean style.



Living Room Wing



Entrance Facade

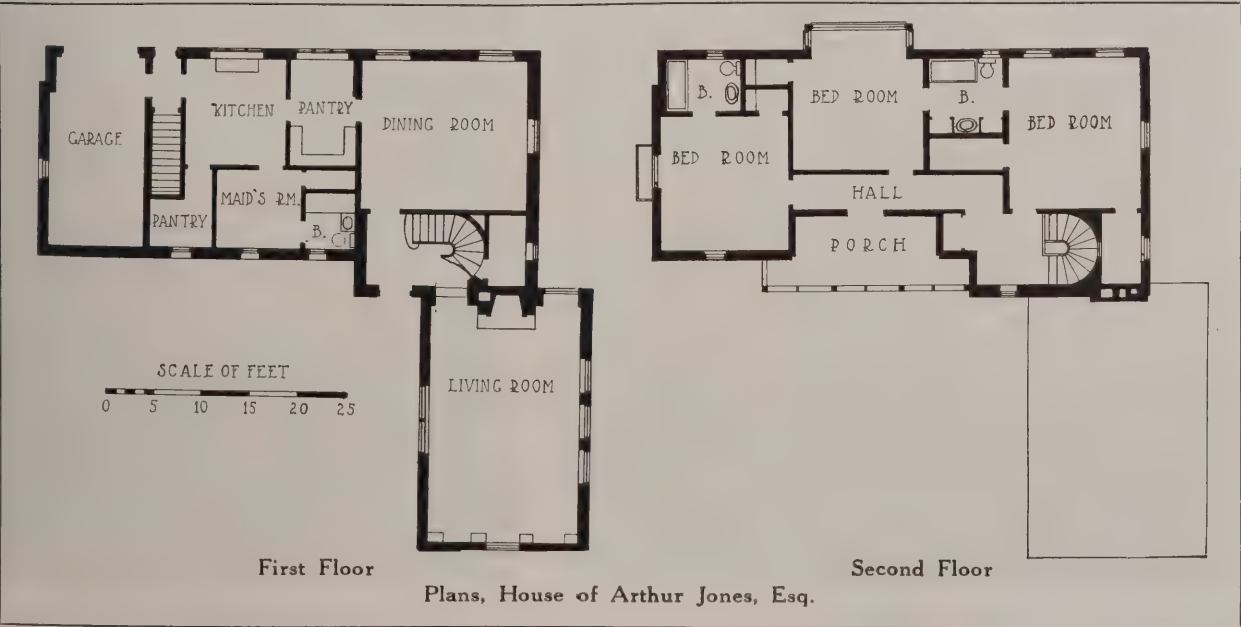




HOUSE OF ARTHUR JONES, ESQ., GLENCOE, ILL.  
JAMES ROY ALLEN, ARCHITECT

IT is interesting to note the many different materials used for the exterior walls of houses designed in the Spanish and Italian styles. Except for the desire to obtain an interesting texture for the wall surfaces of buildings in these types there can hardly be said to be any precedent for the use of "skintled" brick for the walls of Italian houses. However, the result obtained is sufficiently effective to justify the use of this most modern and latest type of brickwork. In the case of this house near Chicago the general proportions, outline and design indicate sufficiently the style from which it is derived. Whether this house would seem more truly

Italian had rough-textured stucco been used for the exterior walls is open to question. The front elevation shows a carefully studied and attractive arrangement of small windows and glassed-in second-story loggia. Undoubtedly in summer, when the glass sashes are removed from this loggia, the effect of the design is still more Italian. The location of this long loggia in relation to the entrance door and the sturdy end chimney is excellent; also the sparing use of windows, as well as their small sizes, deserves commendation and consideration. It is possible that the effect of the long, low living room window, which projects slightly from the building and has



## FORUM SPECIFICATION AND DATA SHEET—129

Residence of Arthur Jones, Esq., Glencoe, Ill.; James Roy Allen, Architect

## OUTLINE SPECIFICATIONS

## EXTERIOR MATERIALS:

Common brick, laid up rough ("skintled").

## ROOF:

Tile.

## WINDOWS:

Wood, casement.

## FLOORS:

Tile in hall; wood in living room.

## HEATING:

Vapor.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Walnut in living room. Painted birch elsewhere.

## INTERIOR DECORATIVE TREATMENT:

Painted plaster.

## APPROXIMATE CUBIC FOOTAGE OF BUILDING:

41,000.

## COST PER CUBIC FOOT:

50 cents.

## YEAR OF COMPLETION:

1924.

interesting leaded glass carried out in the Italian manner, would have been somewhat more in keeping with this style had the wide opening been divided by stone colonnettes or by brick mullions. The arched-top casement door at the end of this living room, with its wood muntins which seem rather more Colonial than Italian in character, is effectively placed as the only opening at the end of this one-story living room wing. The design has considerable charm.

In plan the house is as interesting as it is in elevation. The entrance door leads into a small hall with circular stairway, beyond which is a well proportioned square dining room. In the main part of the first floor are located the pantry, kitchen, maid's room and bath and a one-car garage which opens into the court at the rear of the house. This garage

is conveniently reached through a rear entrance hall, so that in winter it is unnecessary for the owner to go outside of the building. The second floor plan shows three good sized bedrooms and two baths. The closets indicated with these bedrooms are all unusually spacious. The sleeping porch or covered loggia is well located, opening off the second floor hallway, thus making it accessible without the necessity of passing through any of the bedrooms. One bedroom possesses an attractive bay window. Unfortunately, there is no illustration showing the exterior elevation of this window, which is at the rear of the house. It seems probable that this rear elevation, with the garage doors and this overhanging bay window, must be almost as interesting architecturally as the front elevation shown here.



End of Living Room

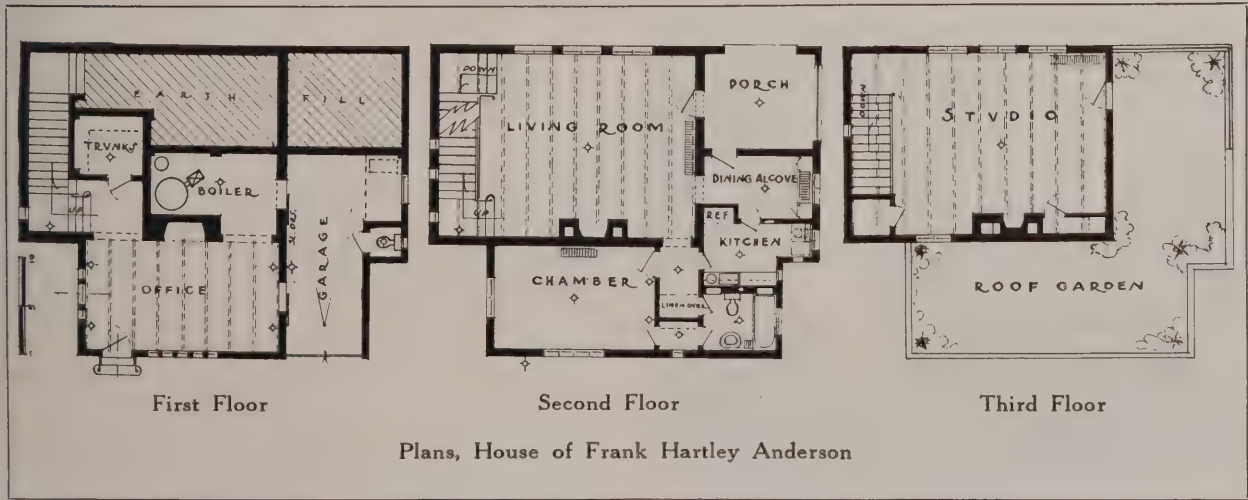


Hall and Stairway





HOUSE OF FRANK HARTLEY ANDERSON, BIRMINGHAM, ALA.  
FRANK HARTLEY ANDERSON, ARCHITECT





## FORUM SPECIFICATION AND DATA SHEET—130

House of Frank Hartley Anderson, Architect, Birmingham, Ala.

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Reinforced concrete and hollow tile.

## EXTERIOR MATERIALS:

Stucco; stone pilasters.

## ROOF:

Concrete tile.

## WINDOWS:

Casements throughout; cypress, leaded.

## FLOORS:

Reinforced concrete; cork tile on second floor; composition on first floor.

## HEATING:

Vacuum steam; fuel oil burner. Automatic gas heater for water.

## PLUMBING:

Enameled iron except toilet, porcelain.

## ELECTRICAL EQUIPMENT:

Lighting and electric range, dishwasher, refrigerator, mixer, etc.

## INTERIOR MILL WORK:

Doors are fir; brick mouldings around doors and windows.

## INTERIOR WALL FINISH:

Plaster, sand-floated and painted.

## INTERIOR DECORATIVE TREATMENT:

Rough oak beams and ceiling in three rooms, stained silver gray.

## APPROXIMATE CUBIC FOOTAGE OF BUILDING:

30,000.

## COST PER CUBIC FOOT:

51 cents.

## DATE OF COMPLETION:

February 6, 1924.

**K** NOW a man by the books he reads and the friends he keeps" is no more true than "know an architect by the house he designs for himself." In Birmingham, Frank Hartley Anderson has recently completed his own house, which although small is of unusual interest and distinction. He has taken an irregular shaped, hillside lot and built a house to fit the unusual and difficult topography. From the lower street, on which the house really faces, it rises in two simple masses, one lower than the other, to a crowning cornice and overhanging roof of Spanish tile. It is the simplicity of these two adjoining rectangular buildings, with their rough-textured stucco and few but well placed and fanciful window and door openings, which wins this house one's commendation. The elevation of the lower part of the front facade terminates with an interesting roof garden above the second story, an attractive treatment possible only in a mild climate seldom visited by snow or extreme cold. The design of

this main elevation might have been slightly improved had it been possible to place the arched doorway of the garage the same distance from the corner near which it is located as is the main entrance door from the opposite corner of the building. The narrow lancet windows, of which five are grouped at the right of the entrance door, and one in the wall of the second story, give a distinctly mediæval touch to the design. It is feared that the small number and sizes of the window openings would hardly suit the type of client usually encountered by the architect of today. The general public has not as yet been educated up to an appreciation of the beauty of the plain wall surfaces of "Mediterranean" buildings.

With such an interesting and unusual exterior, it is not surprising to find the plan of the interior equally out of the ordinary. The first or ground floor of the building contains a good sized office, which connects by a fireproof door with the garage at one side, and through an open archway with a boiler room at the rear. Off of this office a wood stairway leads up to the second or main floor into a large living room on the south side of the building. Off this room opens a corner porch and a dining alcove connecting with a small kitchen. At the back of the living room, directly above the office and garage, is a well proportioned bedroom with bathroom and closets connecting. The third floor of the main part of the house is devoted entirely to a studio of large dimensions, which opens by casement doors onto the roof garden. Practical and convenient as the plan of this house may be for a married architect or artist without children, some rearrangement would be required to adapt the plan for the use of a family with children. But the evidence of individuality and personal taste shown both in the interior as well as the exterior design justifies its unusual plan.



Office, House of Frank Hartley Anderson





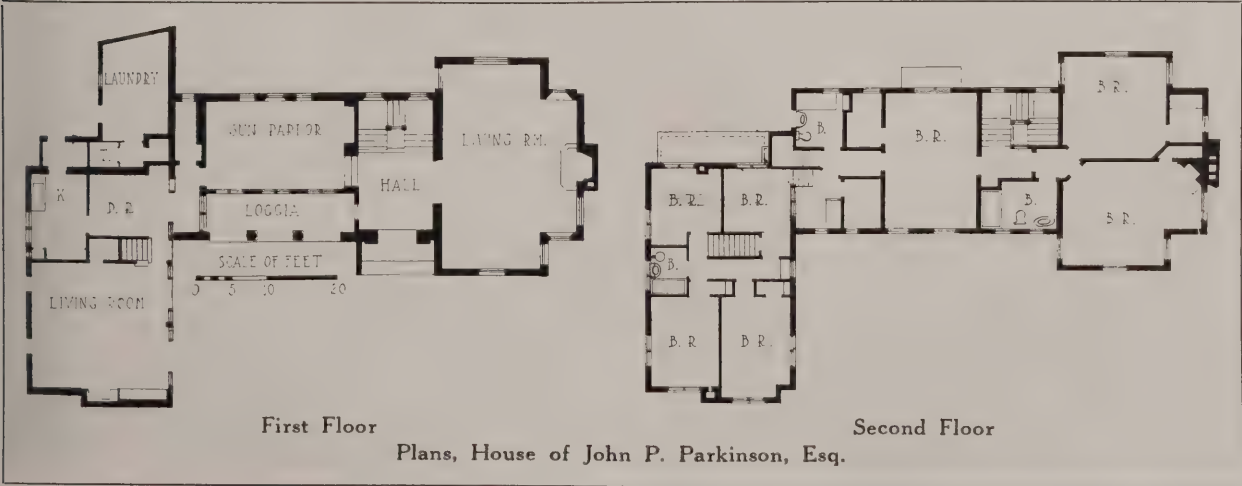
Above, Entrance Facade; Below, Garden Front



HOUSE OF JOHN P. PARKINSON, ESQ., SANTA MONICA, CALIF.  
JOHN P. AND DONALD B. PARKINSON, ARCHITECTS

AGAIN we have a house designed by architects, two, father and son, and for their own occupancy. It is always interesting to note what sort of a house an architect builds for himself, as the ideas and preferences of clients greatly influence and handicap an architect in designing their houses. When building for himself, he has an opportunity of trying architectural effects and experiments in colors, plan and design, which he is seldom able to attempt in the house of a client. This Italian house at Santa

Monica has real distinction and dignity, and it is only regretted that lack of space prevents the publication of more illustrations of this excellent example of domestic architecture. The tall triple arches of the entrance loggia pleasantly dominate the front elevation, and adequately light the large center sun parlor. In general the design of the house suggests those of many of the smaller Tuscan villas, with their dominating central buildings and projecting wings. The center stair hall, extending through the



## FORUM SPECIFICATION AND DATA SHEET—131

House of John P. Parkinson, Architect, Santa Monica, Calif.

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Reinforced concrete foundation, hollow tile bearing walls, wooden floor and roof construction.

## EXTERIOR MATERIALS:

Stucco.

## ROOF:

Clay tile.

## HEATING:

Gas hot air furnace and fireplace.

## PLUMBING:

Standard bathrooms; water softening system; circulating hot water system.

## ELECTRICAL EQUIPMENT:

Lighting and stove, water heater, washing machine, auxiliary electric pumps for domestic water system.

## INTERIOR MILL WORK:

Oak and redwood for stained surfaces. Douglas fir and pine for those painted.

## INTERIOR WALL FINISH:

Stained redwood and paint on smooth plaster.

## DECORATIVE TREATMENT:

Subdued in color.

## APPROXIMATE CUBIC FOOTAGE OF BUILDING:

75,000.

house, is entered through the main door located at the right of the high vaulted loggia. On the right of this stair hall is a living room, 30 by 19 feet, with a large fireplace in the long wall. On the opposite side of the main hall three steps lead down into a sun parlor, which occupies the center of the main part of the house. Beyond this room a doorway connects with the eastern wing, which is a complete house in itself, containing on the first floor, a living room, dining room, kitchen and laundry. Above

these rooms are four bedrooms and a large bathroom. Over the main part of the house and the western wing are three large bedrooms and one bath. From the illustration of the rear elevation of the house some idea may be obtained of the beauty of its high location. The Pacific Ocean lies a half mile distant to the southwest, while on the other side, beyond a canyon, or ravine as it would be called in the east, are the Santa Monica Mountains, which stretch for 50 miles along the coast to the northwest.



Entrance Hall, Stairway and Part of Living Room



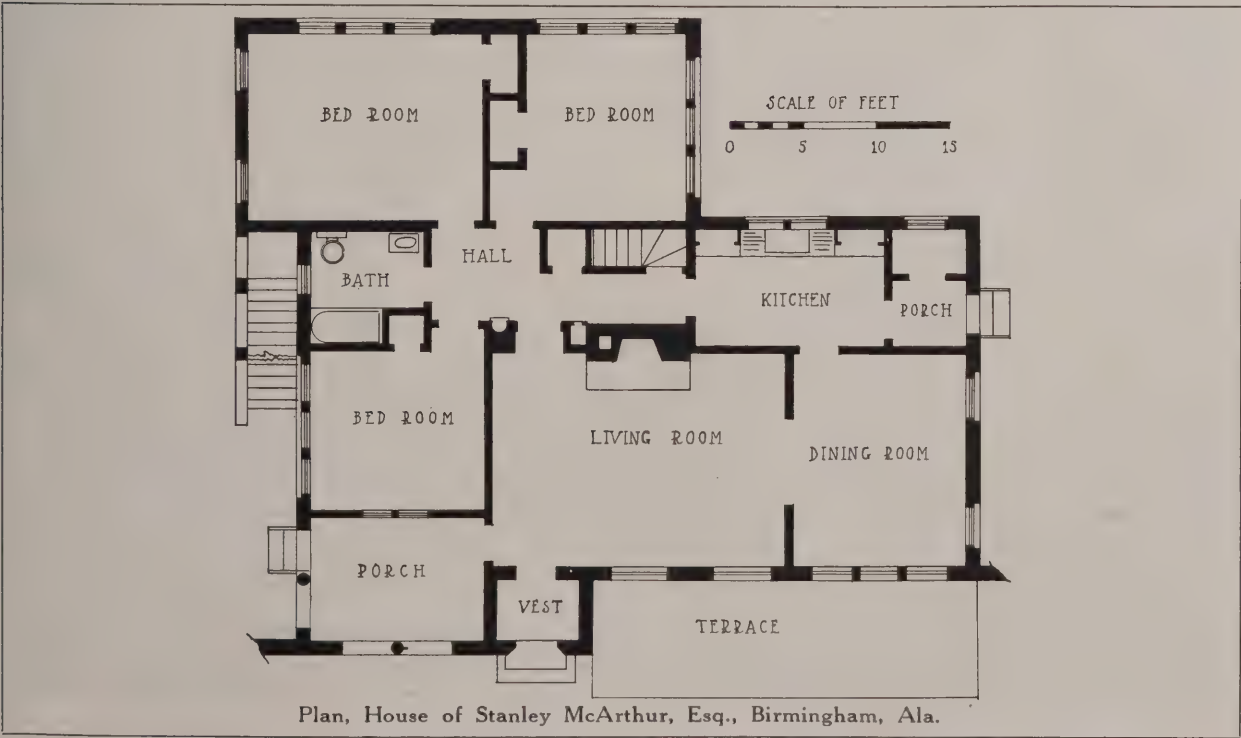


Photos, Tebbs & Knell, Inc.

HOUSE OF STANLEY McARTHUR, ESQ., BIRMINGHAM, ALA.  
GEORGE P. TURNER, ARCHITECT

IT is always refreshing to find a new interpretation of the "Mediterranean" style, so-called, exemplified in this small one-story house in Alabama. The low and simple effect of the front elevation would suggest somewhat the architecture of the Near East, on account of the flat roof and exterior stairway leading to it, were it not for the double-hung

windows and casement doors used in the living and dining rooms. The low, tile roofed entrance vestibule makes a pleasant break in the length of the facade, as does also the double-arched window of the covered porch at the left of the vestibule, as illustrated. The plan indicates that the house is, perhaps, larger than would be imagined from the front elevation.



## FORUM SPECIFICATION AND DATA SHEET—132

House of Stanley McArthur, Esq., Birmingham, Ala.

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Concrete foundation and footings. Concrete and hollow tile walls. Wood floors.

## EXTERIOR MATERIALS:

Stucco.

## ROOF:

Built-up roofing and roofing tile.

## WINDOWS:

White pine, double-hung and casements.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Flexible conduit wiring for lighting.

## INTERIOR MILLWORK:

Yellow pine.

## INTERIOR WALL FINISH:

Sand-finished and sponge-finished plaster.

## INTERIOR DECORATIVE TREATMENT:

Painted walls. Beamed ceiling in living room.

## APPROXIMATE CUBIC FOOTAGE:

27,248.

## COST PER CUBIC FOOT:

35 cents.

## DATE OF COMPLETION:

September, 1925.

tion. Three bedrooms and a bathroom are grouped at the side and rear of the living room, accessible to it but sufficiently isolated to secure adequate privacy. The kitchen is small and opens directly into the dining room, a convenient location for a young housekeeper, so many of whom prefer to do their own work rather than struggle with the servant problem. The bedrooms are so located that each has spacious windows on two sides, a very desirable arrangement for a one-story house with a flat roof. If sufficient air space is left between the flat roof and

the ceilings of the rooms below, there should be no difficulty in keeping cool in summer. The view of the dining room, shown here, indicates that no attempt at creating Spanish or Italian atmosphere in the furnishing and decorating of this house has been made. All of the furniture as shown appears to be excellent reproductions in mahogany of the late Colonial type, which attractively furnishes any small modern dining room, though in this case it gives no suggestion of the architectural style from which the design of the exterior of the house has been derived.



The Dining Room



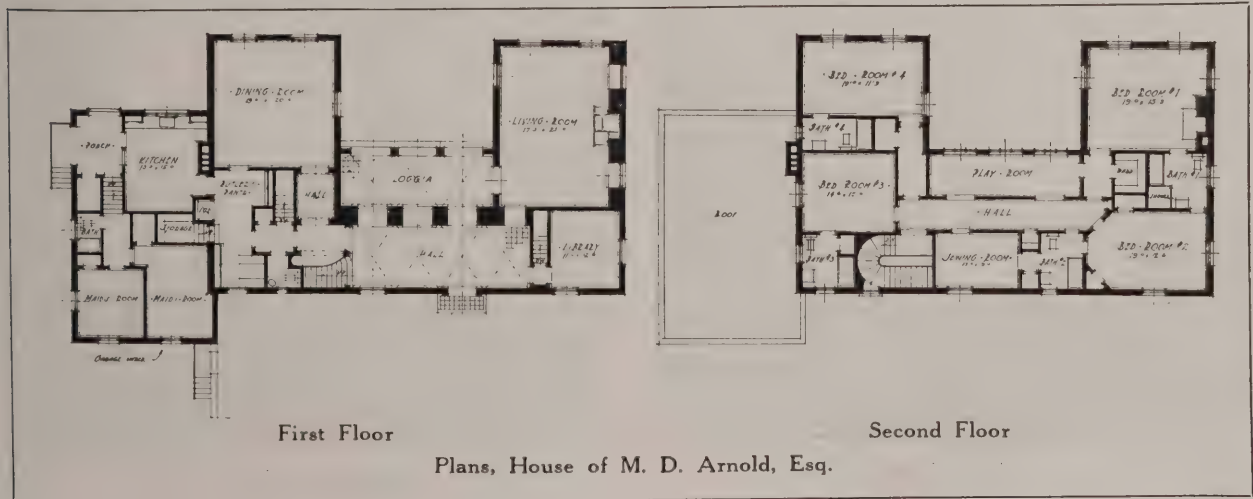


Photos. *Tebbs & Knell, Inc.*

HOUSE OF M. D. ARNOLD, ESQ., KNOXVILLE, TENN.  
BARBER & McMURRAY, ARCHITECTS

HERE is a house decidedly homelike and attractive in design, which suggests in general outline and proportions the small villas around Florence. The entrance door in its architectural detail also suggests Italian precedent, but the spacious, double-hung windows, each with its 24 small panes and wood muntins, could have been derived from no architectural type but the Colonial. However, the effect of this combination of Italy and New England is decidedly homelike and pleasing. The location of the rain water leaders as well as of the single iron-grilled window on the front elevation indicates the care and thought which went into the study of this problem and which achieved such satisfactory re-

sults. This house is a noteworthy proof of the now generally admitted fact that absolute adherence to any one architectural style is not necessary in order to secure a thoroughly architectural and pleasing design. As the house stands on sloping ground, it was possible to drop the level of the service wing considerably below that of the main structure. This difference in height is further emphasized by the high tiled roof of the main house and the low, flat-roofed service wing. Under this wing, on a level considerably below that of the entrance court, is located a large garage, well concealed, as is the servants' yard also, by a high stucco-covered wall. The front door opens into an attractive oblong



Plans, House of M. D. Arnold, Esq.

## FORUM SPECIFICATION AND DATA SHEET—133

House of M. D. Arnold, Knoxville, Tenn.; Barber &amp; McMurray, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Hollow tile walls; wood floors.

## EXTERIOR MATERIALS:

Stucco walls; tile roof.

## ROOF:

Tile.

## WINDOWS:

Double-hung, cypress.

## FLOORS:

Oak and 8 x 8 tiles.

## HEATING:

Vapor.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Birch, oak and pine.

## INTERIOR WALL FINISH:

Sand-finished plaster.

## DECORATIVE TREATMENT:

Paint.

## APPROXIMATE CUBIC FOOTAGE OF BUILD-

ING:

90,000.

## COST PER CUBIC FOOT:

45 cents.

## DATE OF COMPLETION:

January, 1924.

hall, out of which a vaulted loggia is reached through three arched openings. Thus, when one enters the main hall from the forecourt, a delightful vista is obtained of this typical Italian loggia with its terraced garden beyond. The living room, of excellent proportions, opens off of this loggia on the right, while on the left is the dining room with connecting pantry. The maids' rooms and bath, as well as the kitchen and service porch, located in the second floor of the

service wing, are only one step below the main floor level. For a country house of moderate size this plan is recommended for careful study and emulation. The second floor is equally well arranged, with four large master bedrooms and four baths and a sewing room, all directly accessible from the main hall. Particular attention is called to the excellent location and plan at the end of the main hall. The enclosed stairway treatment is distinctly Italian.



The Hallway



The Garden Front

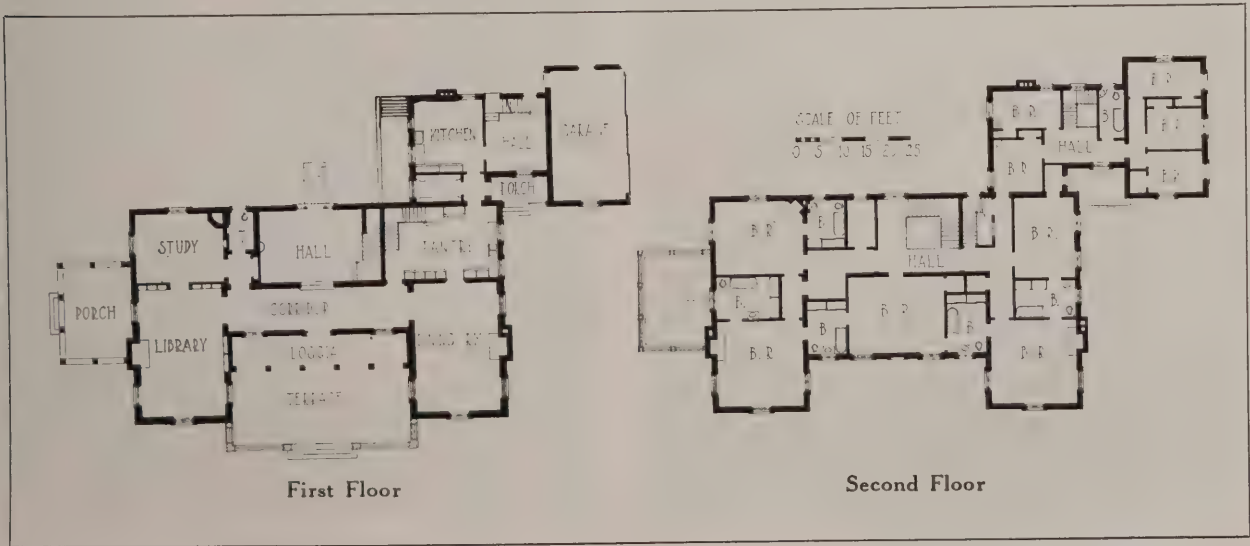




HOUSE OF HENRY E. BASKERVILL, ARCHITECT, RICHMOND, VA.

**A** GAIN we have to consider an architect's house designed by himself. This house is rather more pretentious in size, detail and interior finish than some already considered in this group of houses, all of which suggest at least some influence of Italian

or Spanish architecture. There is, however, a pleasing straightforwardness and simplicity in the design of this comfortable, homelike looking house, which decidedly expresses a spirit of culture and refinement. - An entrance loggia containing five arches



## FORUM SPECIFICATION AND DATA SHEET—134

House of Henry E. Baskervill, Architect, Richmond, Va.

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Brick walls; fireproof first floor and wood floor joists above first floor.

## EXTERIOR MATERIALS:

Stucco on brick, with limestone trimmings.

## FLOORS:

Oak and teak parquet in first floor rooms; brown tile in halls, and pine in bedrooms.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Wired in conduit.

## INTERIOR MILL WORK:

Mahogany in dining room; gum in balance of first floor and second floor halls. White woodwork; mahogany doors in bedrooms.

## INTERIOR WALL FINISH:

Paneling and plaster.

## DECORATIVE TREATMENT:

Marble stair with iron handrail.

## APPROXIMATE CUBIC FOOTAGE:

157,000.

## COST PER CUBIC FOOT:

34 cents.

## YEAR OF COMPLETION:

1914.

opens into the long vaulted corridor which connects the library at one end of the house with the dining room at the other. These spacious and well proportioned rooms are equal in size. Back of the dining room an unusually large pantry leads to the kitchen and service department at the rear. Joining the kitchen wing is a garage for three cars. Back of the library is a small study, an illustration of which is included in this presentation. The decorated beam ceiling, the rough plastered walls and the quaint corner fireplace with its quarter-conical hood are Italian features worthy of note. At the side of the

library a large, brick-paved, covered porch adds comfort and convenience. To the plan of the second floor of his house, Mr. Baskervill also devoted much care and study. Bathrooms separate the bedrooms, and are arranged with doorways in such a manner that access to them may be had throughout the entire group of five bedrooms without the necessity of entering the open stair hall or north and south passageways. A more logical, convenient or pleasing bedroom floor plan can hardly be imagined. It is most truly an architect's plan, showing as it does unusual economy of space and remarkable balance in design.



Corner of Study



Entrance Detail

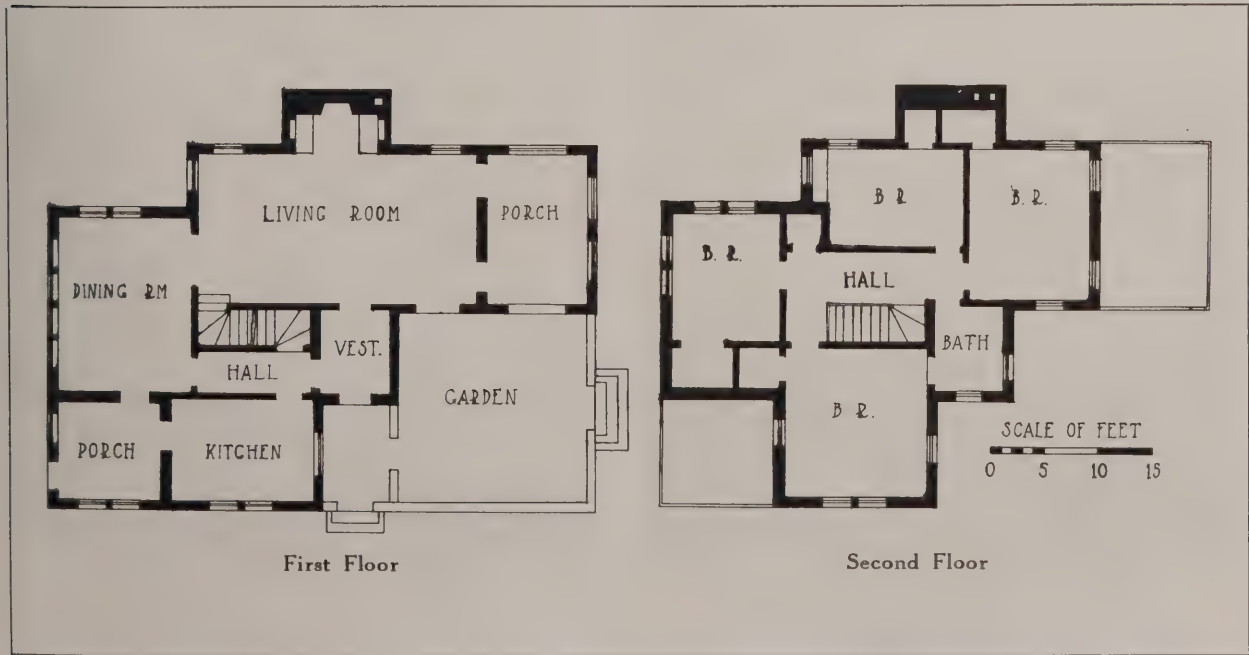




HOUSE OF KEY FOSTER, ESQ., BIRMINGHAM, ALA.  
GEORGE P. TURNER, ARCHITECT

ONE of the houses recently completed at Hollywood, near Birmingham, Ala. from the designs of George P. Turner, architect, is this two-story, stucco-covered house which shows much originality in its design. It might be preferred that the two groups of double windows had been of equal size and, together with the single window under the gable of the roof, treated with metal casements and old glass suggesting Italian precedent, but it must be confessed that the design and location of the

house are sufficiently out of the ordinary to warrant its consideration as an interesting example of small house architecture. The setting of the house against a background of pines is most effective and in itself justifies the unusual facade and wall treatment of the front elevation. These walls seem to end rather abruptly, and it is to be hoped that when this house is purchased and occupied they may be carried back into the forest. As is so often the case with houses built on speculation, there were not sufficient funds



## FORUM SPECIFICATION AND DATA SHEET—135

House of Key Foster, Esq., Birmingham, Ala.

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Concrete foundation and footings. Concrete and hollow tile walls. Wood floors.

## EXTERIOR MATERIALS:

Stucco.

## ROOF:

Built-up roofing and roofing tile.

## WINDOWS:

Pine, 12-light, double-hung and casements.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Flexible conduit wiring.

## INTERIOR MILLWORK:

Yellow pine.

## INTERIOR WALL FINISH:

Sand-finished and sponge-finished plaster.

## INTERIOR DECORATIVE TREATMENT:

Painted walls.

## APPROXIMATE CUBIC FOOTAGE:

39,055.

## COST PER CUBIC FOOT:

38 cents.

## DATE OF COMPLETION:

October, 1925.

available to carry out logically and consistently many of the architectural and decorative details which make or mar a design. Small details are important.

As the illustration of the exterior of this house indicates, the plan is irregular and amusing. The windows shown on the front elevation open into the kitchen and upon the dining room porch. The surprising lack of kitchen closets and any pantry indicated on the accompanying sketch plan has undoubtedly been rectified by the prospective owner. This omission may not be a mistake, since no two housekeepers have the same ideas about the locations of kitchen pantries, closets, sinks and dressers.

The dining room in this house probably has a charming outlook into the pine grove at the side and rear, this being true also of the living room and living porch, both of which are located at the back of the house. The high wall at the right of the entrance door encloses a square, formal garden. The location of the entrance drive and garage so necessary to a suburban house is not shown, but, undoubtedly, would be considered by an architect who could devise so clever a plan as this. The plan of the second floor shows four well arranged bedrooms and one bath. The latter opens not only off the hall but also off the principal and largest of the four bedrooms.



Interiors, Residence of Key Foster, Esq.



# INTERIOR ARCHITECTURE

## The Dining Room at Compiègne

By C. HAMILTON PRESTON

OF all the rooms in the Louis XVI wing at Compiègne, the dining room is by far the most notable. Opening directly into the suite occupied by Marie Antoinette herself, it far excels in dignity and majesty any of the rooms of the royal suite. One doesn't have to look far for the reason for this. In the first place, the proportions of the room are majestic. It is approximately 45 feet long by 33 feet wide and 19 feet, 8 inches high, proportions which make it adequate for those state functions for which it was designed. Then, too, whereas the other rooms are in some instances ornate and burdened with detail as well as with stuffs and furniture, the dining room is extremely simple and direct in treatment, in fact almost severe, and yet the effect is satisfying to an unusual degree.

The walls are kept decidedly plain, only a faint gray marbleizing being apparent; panels are held in abeyance except for the *grisailles* over the doors, the huge *grisaille* over the mantel, and the small panels in the wainscot below the pilasters. The pilasters are very vigorous, and the caps unusually beautiful

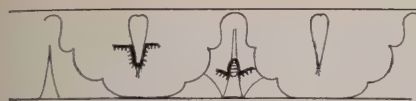
in detail. The spacing of the pilasters on either side of the mantel is unequal, but one scarcely notices it; this was made necessary by the position of the chimneypiece. The corners, cut off at an angle of 45 degrees at the far end of the room, add to the attractiveness of the plan. All the architraves are large in scale, and the mantel itself as well; but so large is the room, and the various members are so well proportioned that there is no perceptible heaviness of scale. The cornice, simple yet bold and vigorous and beautifully disposed as regards detail, is dignified and well designed and adapted to the splendid order of pilasters. The entire room is richly simple, reticent, and full of character.

The marked simplicity of the room, its great size and noble treatment all combine to make it one of the most commanding and impressive to be found. As an inspiration for rooms of a like character today it cannot be surpassed. It is an excellent example of what can be done in the case of a large room by exercising restraint in the matter of ornamentation and detail. This is always desirable in a dining room.

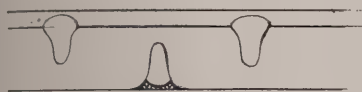






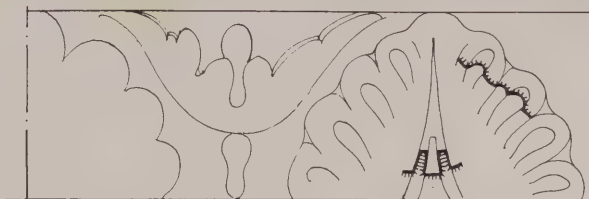


DETAIL "D"

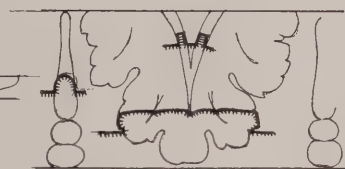


DETAIL "C"

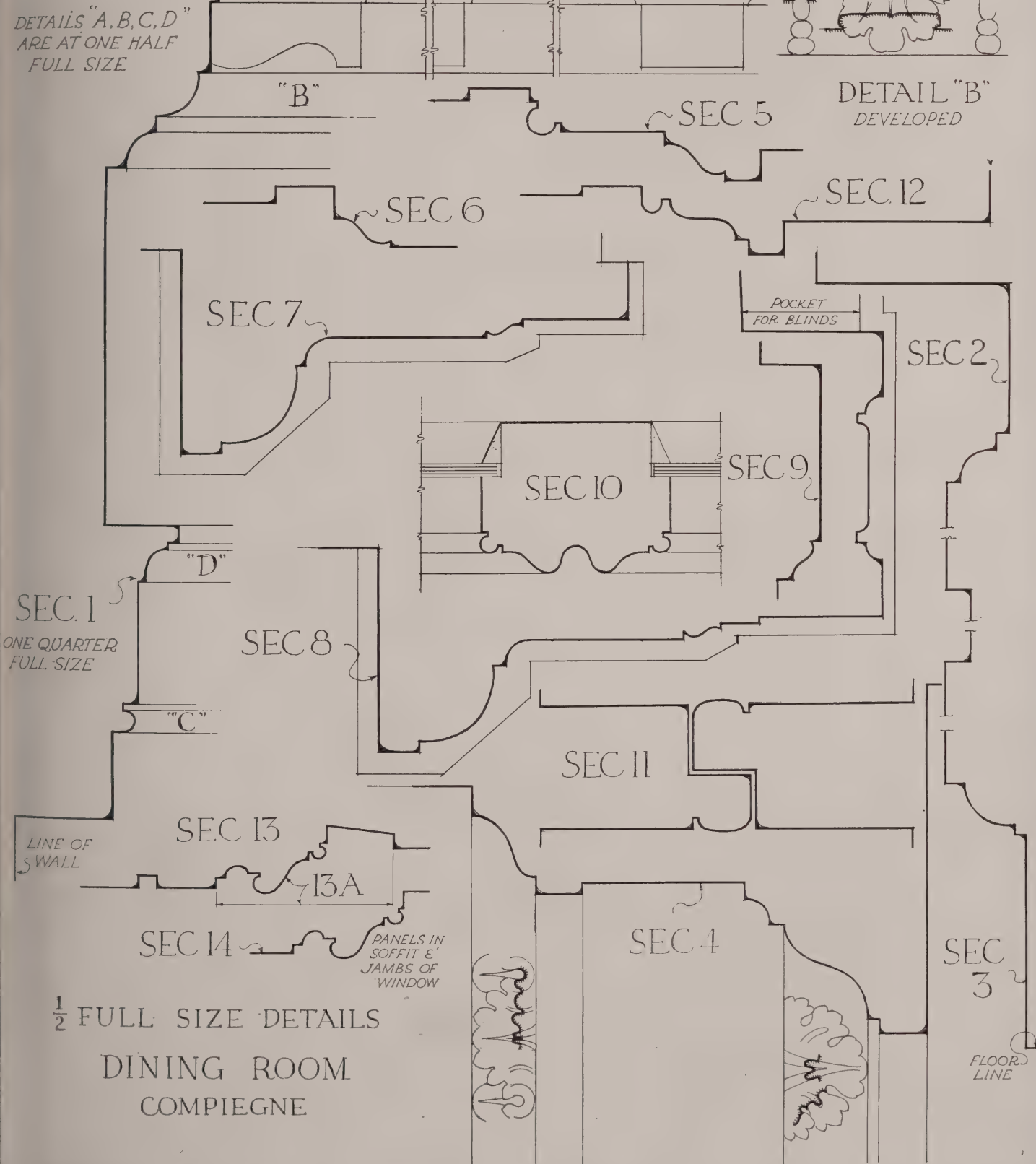
DETAILS "A, B, C, D"  
ARE AT ONE HALF  
FULL SIZE

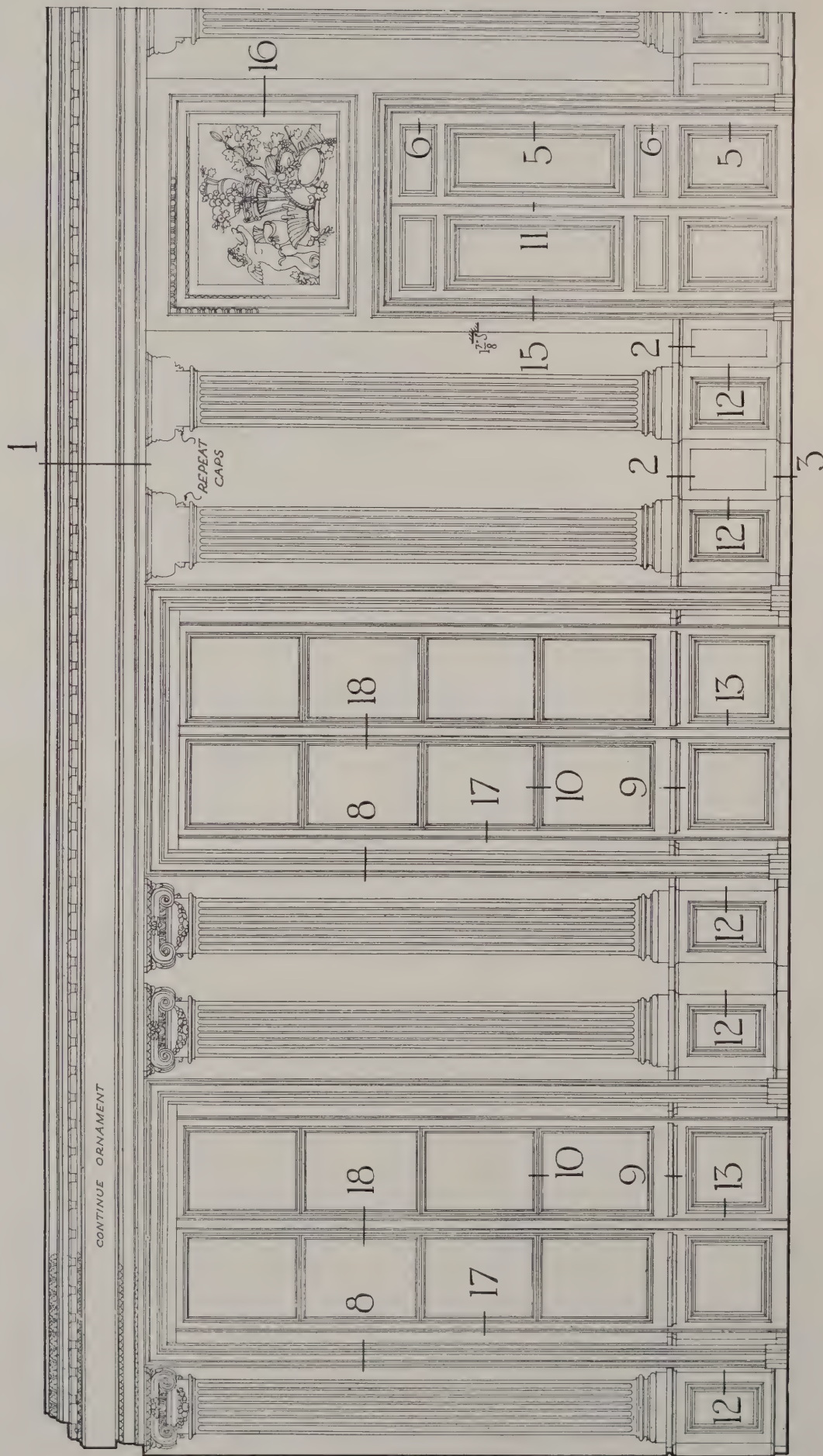


DETAIL "A"



DETAIL "B"  
DEVELOPED



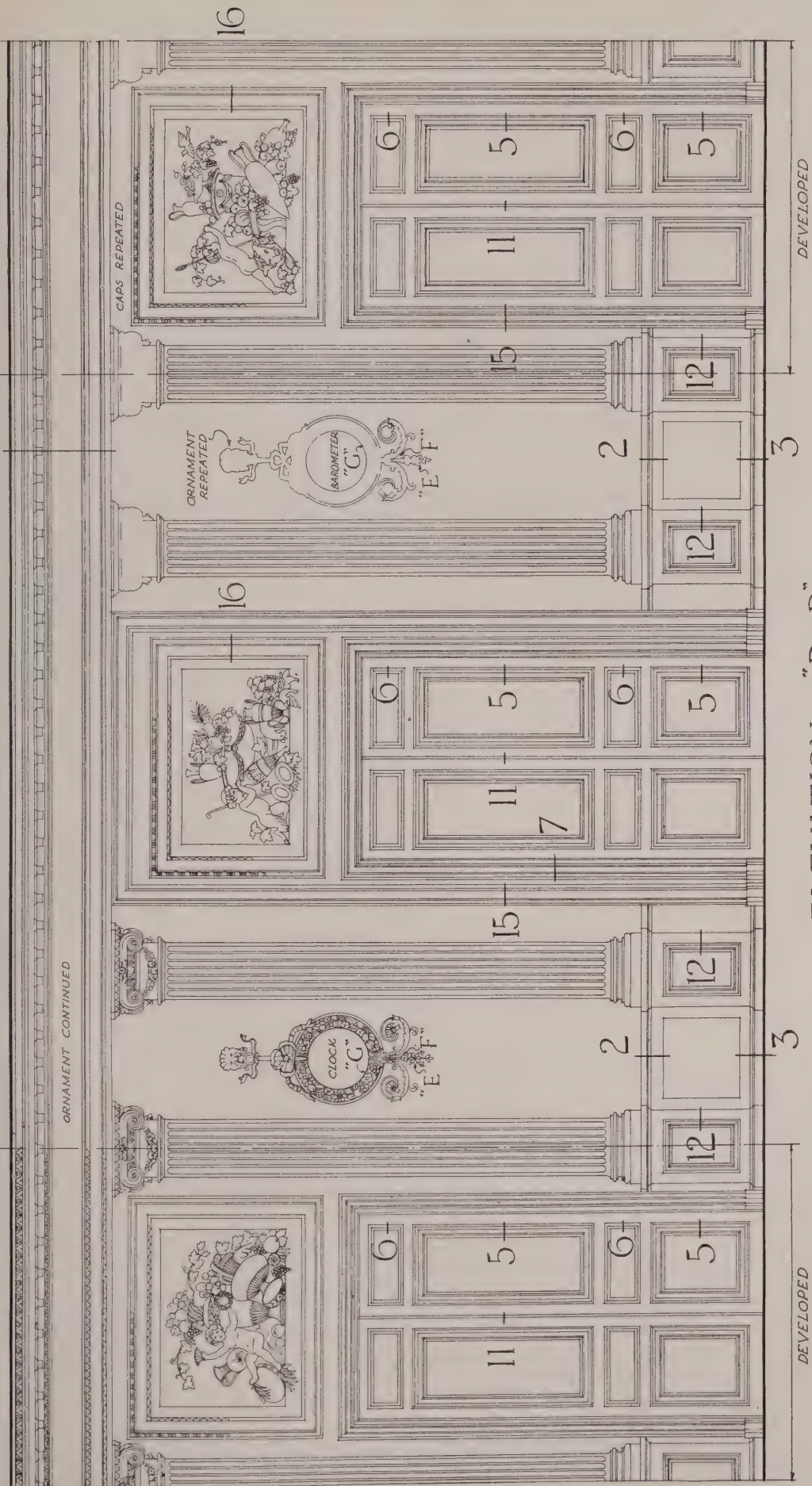


ELEVATION "C~C"

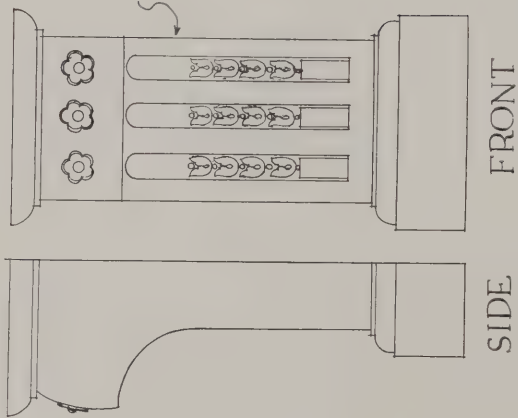
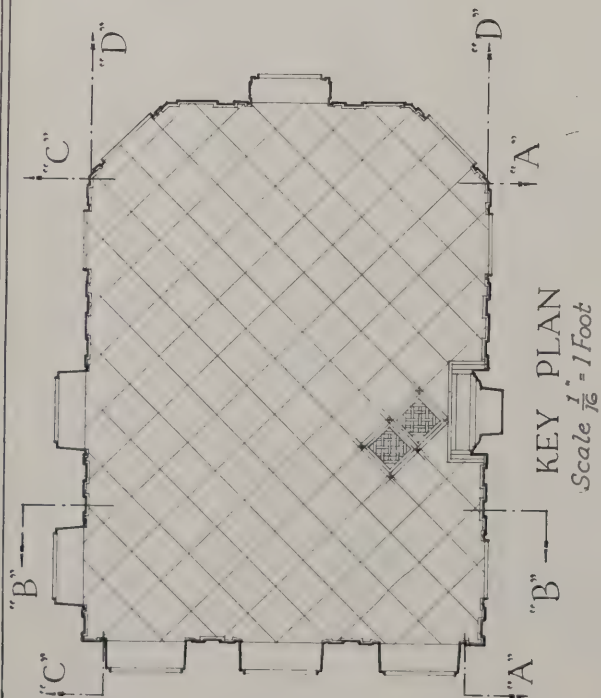
Scale  $\frac{1}{4}$  Inch = 1 Foot

DINING ROOM  
COMPIEGNE

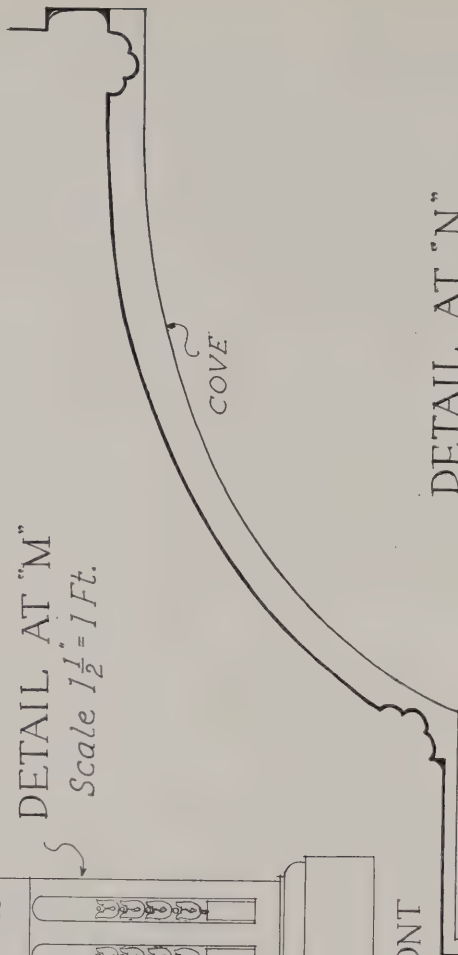




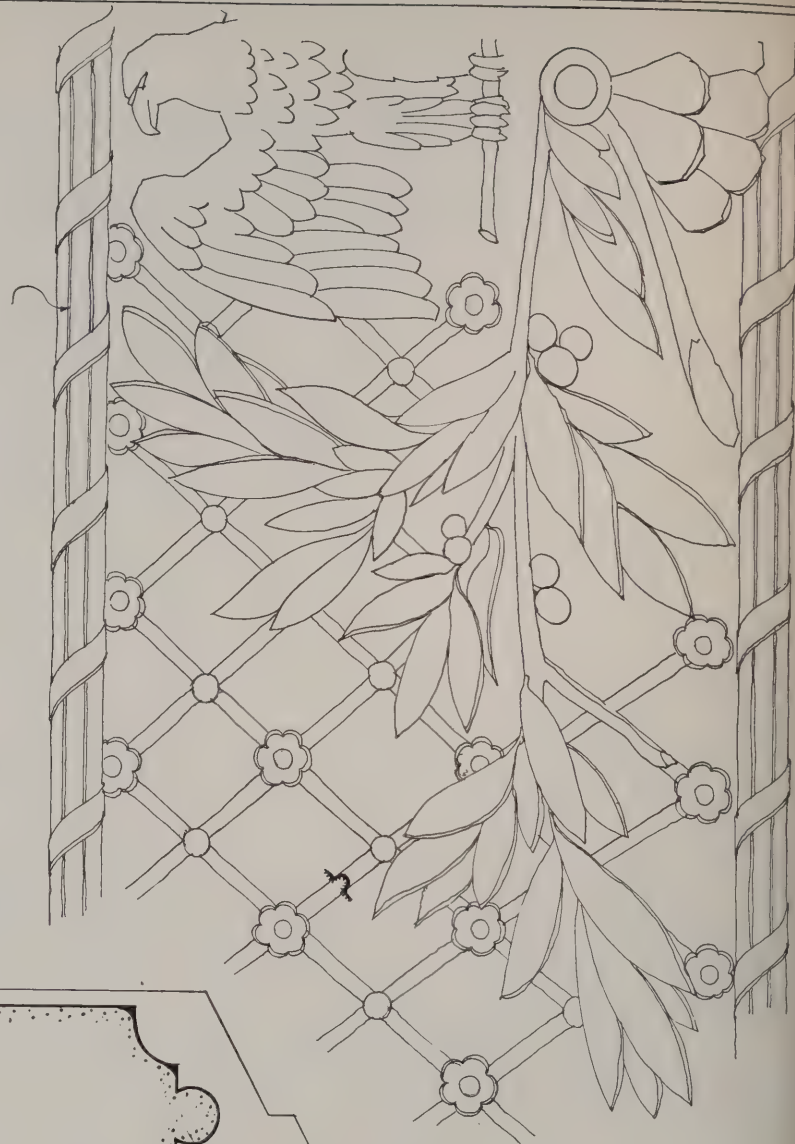
ELEVATION "D~D"  
Scale  $\frac{1}{4}$  Inch = 1 Foot  
DINING ROOM  
COMPIEGNE



DETAIL AT "M"  
Scale  $1\frac{1}{2}'' = 1 \text{ Ft.}$



DETAIL AT "N"

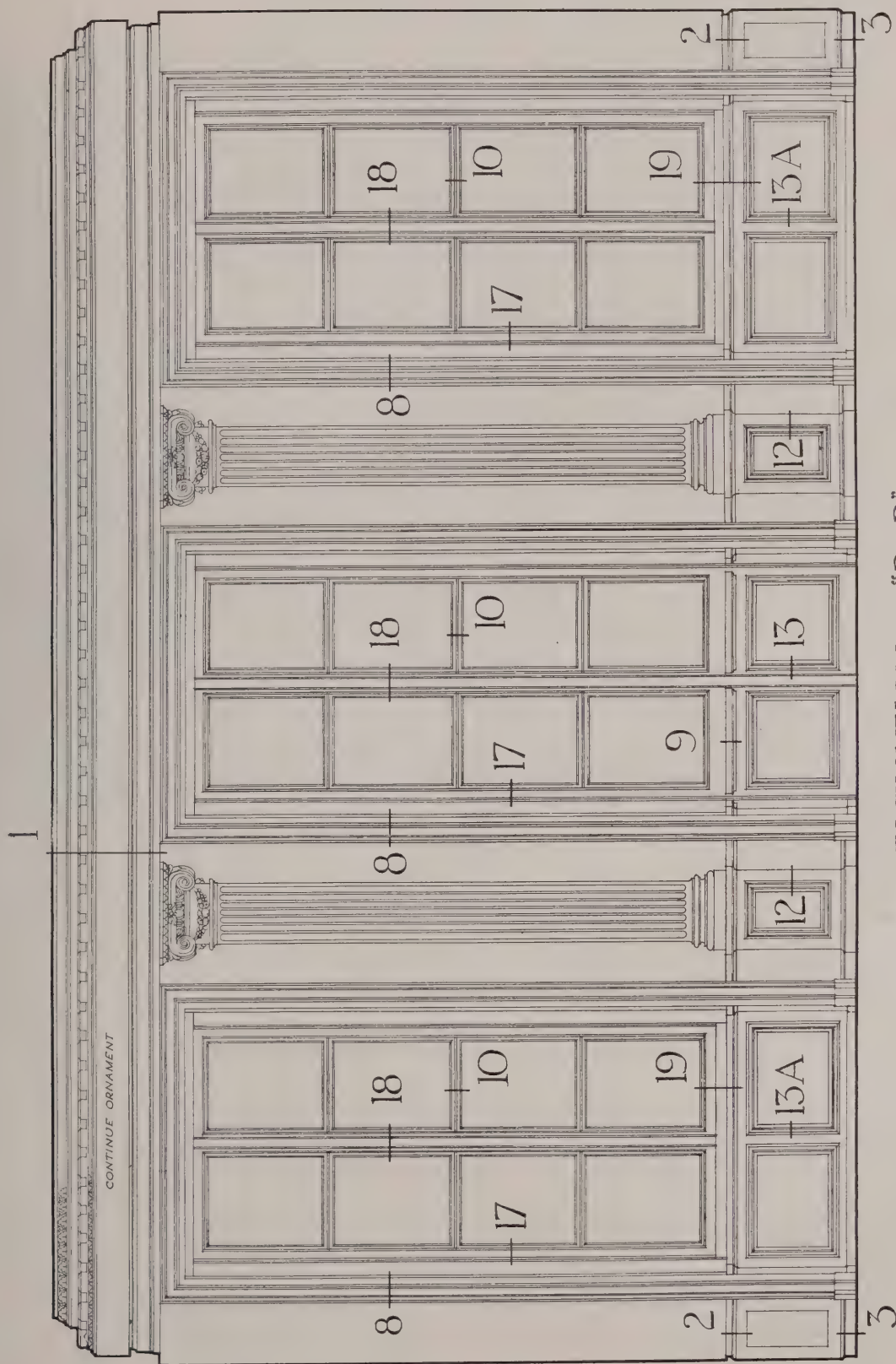


## SEC. 20



## $\frac{1}{2}$ FULL SIZE DETAILS DINING ROOM COMPIEGNE

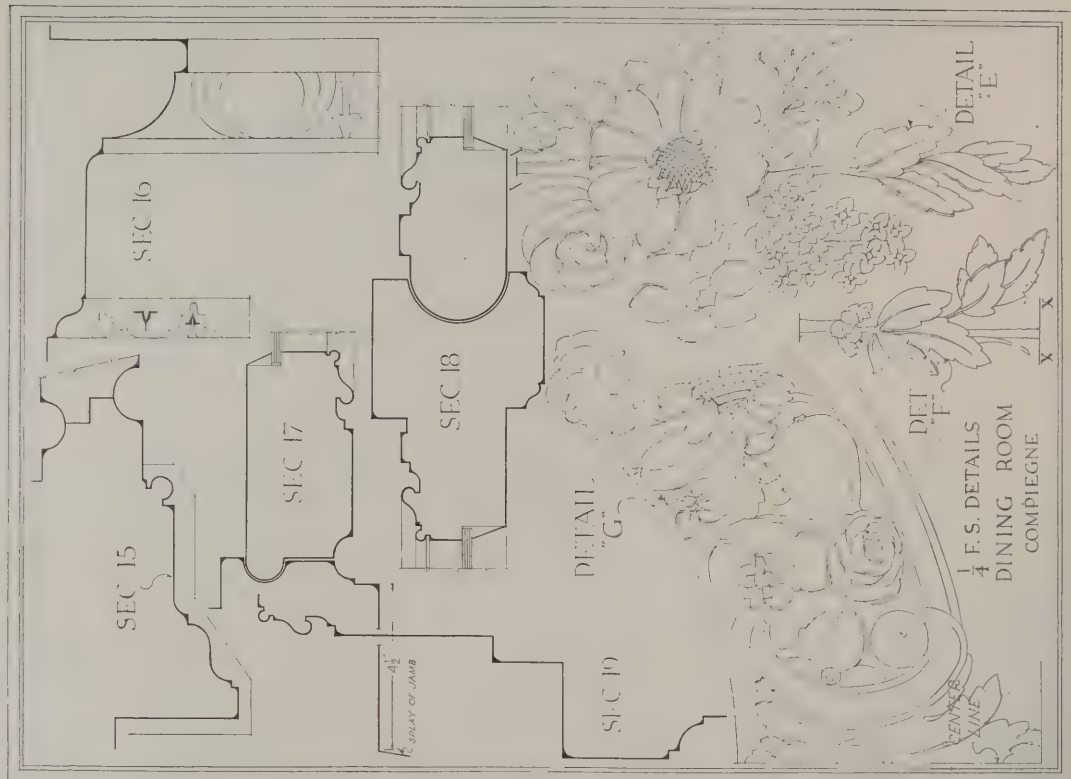
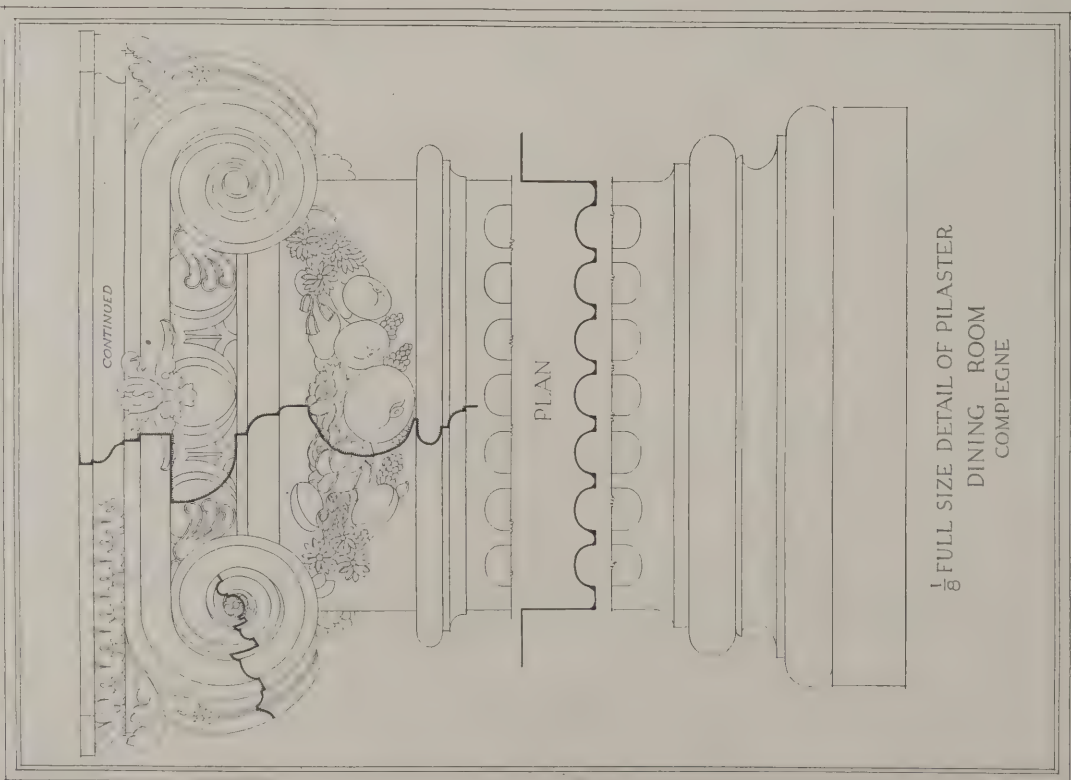




ELEVATION "B~B"

Scale  $\frac{1}{4}$  Inch = 1 Foot

DINING ROOM  
COMPIEGNE







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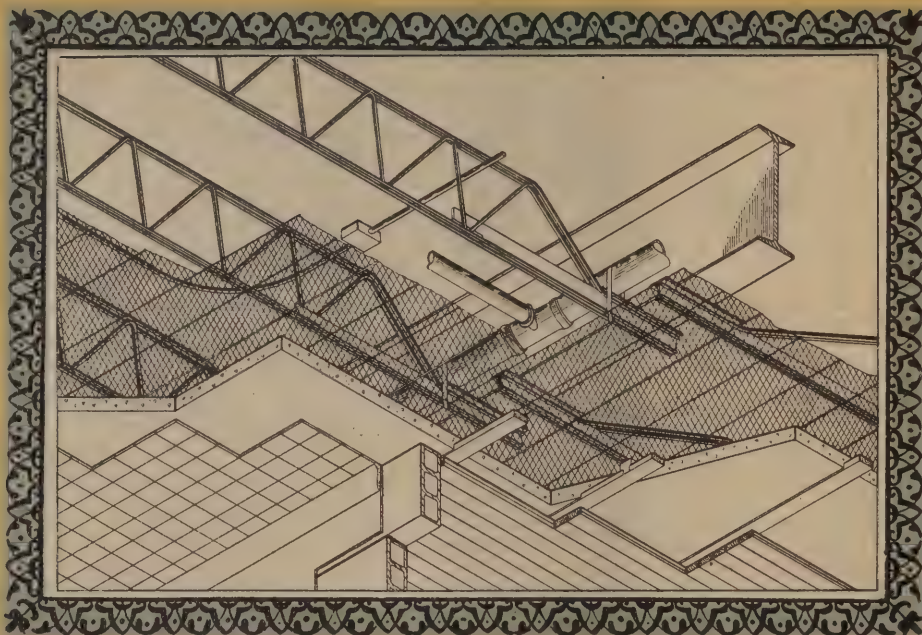
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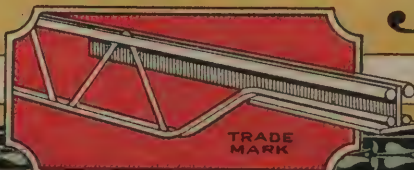
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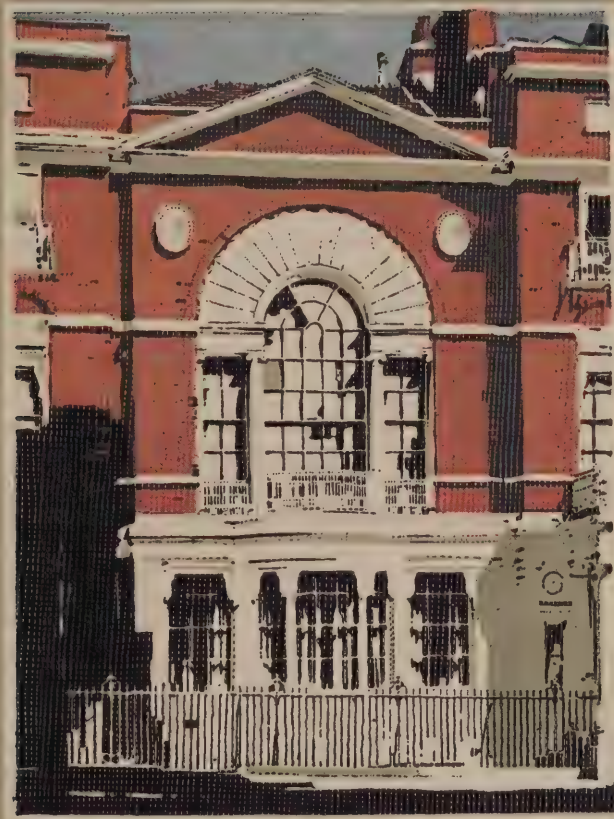


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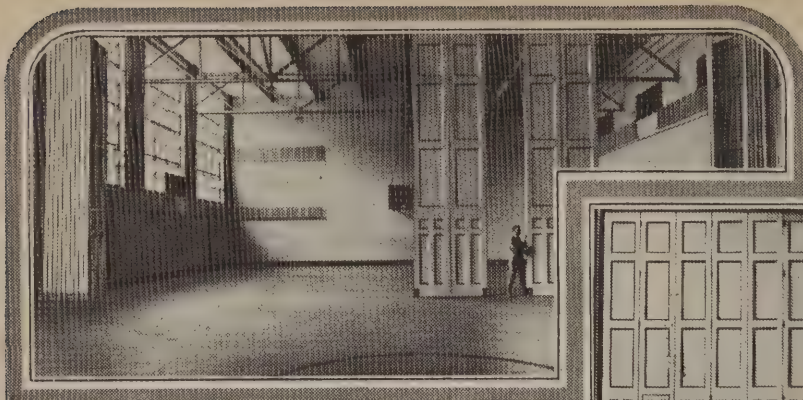
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CLUB AND FRATERNAL BUILDINGS REFERENCE NUMBER

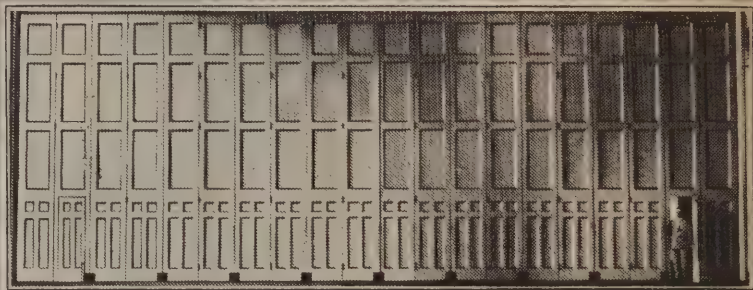
PRICE \$2





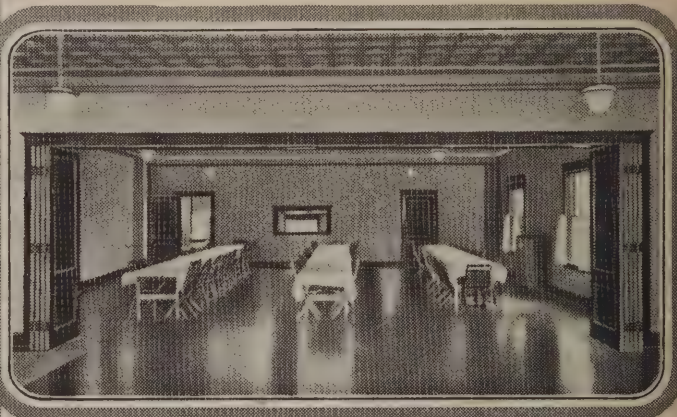
*Left and Below: FoldeR-Way Hardware as used on very high and heavy partition doors. The weight is carried on floor track.*

With this type of FoldeR-Way the doors operate in pairs—easily handled by one man.

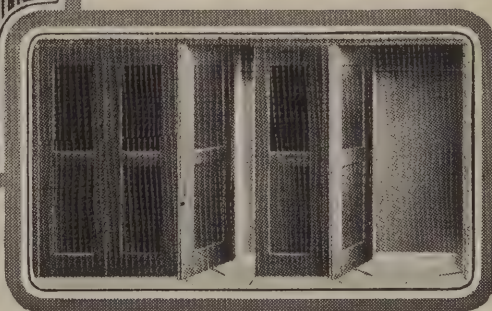
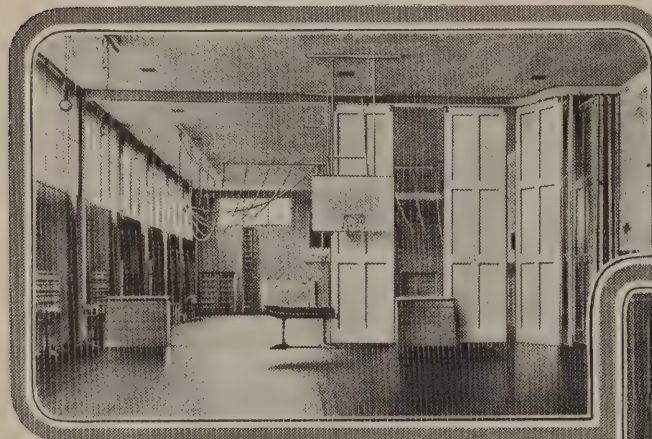


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*Left: This type of FoldeR-Way is particularly adaptable for very wide doors, each handled as a separate unit.*



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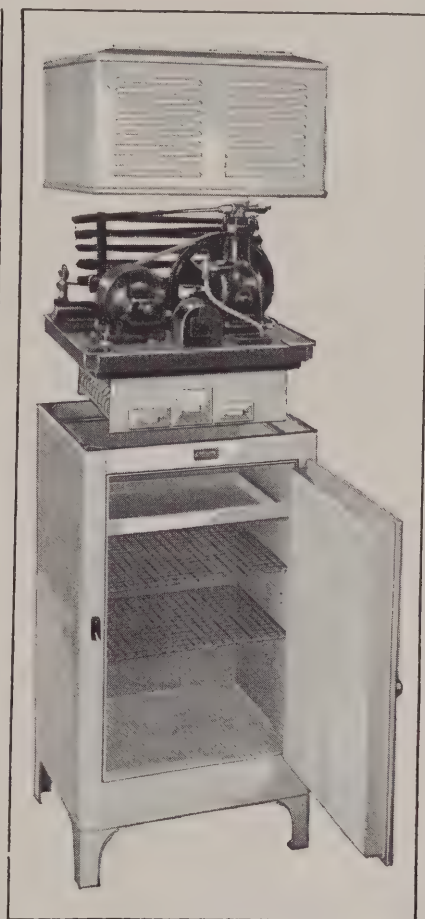
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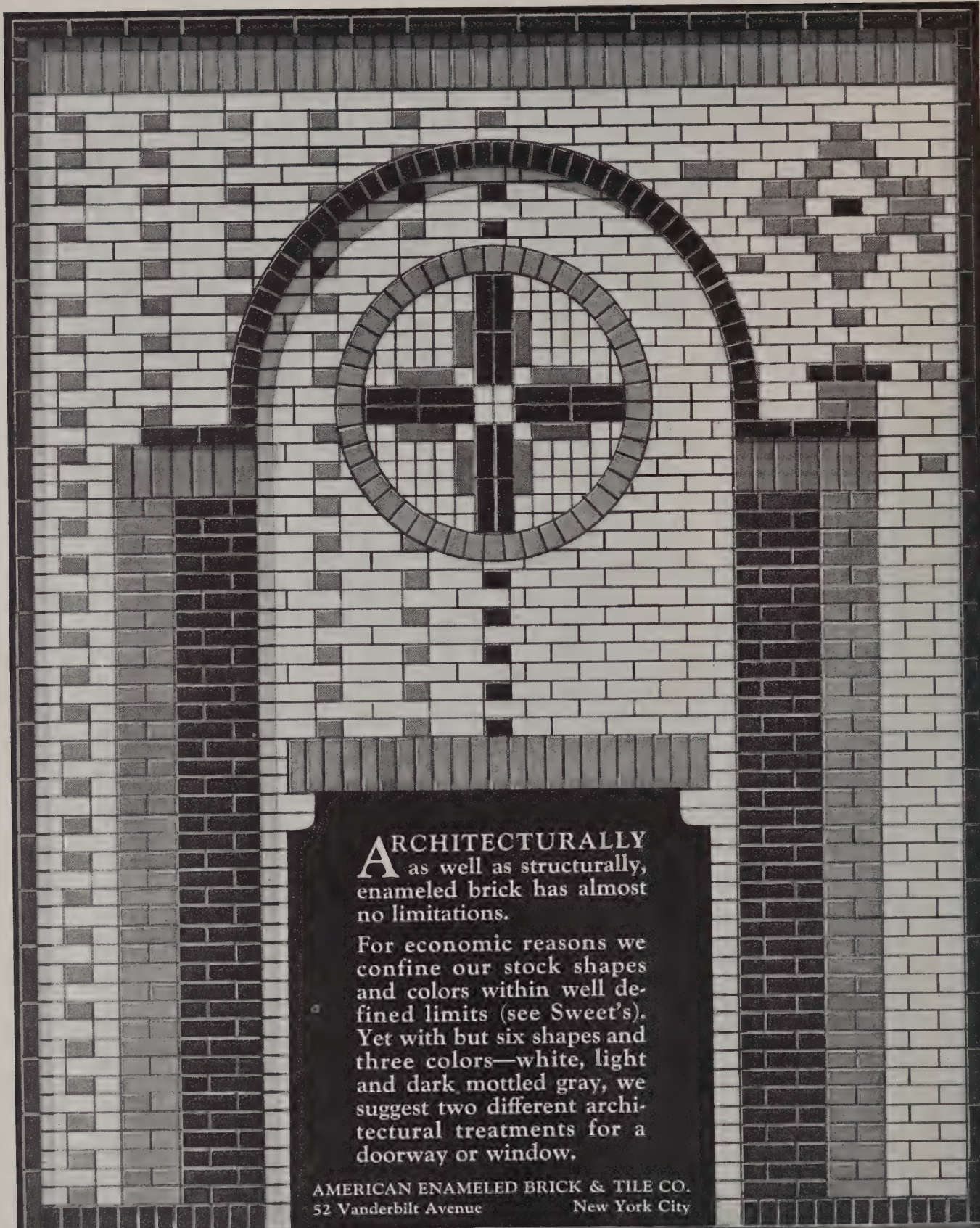
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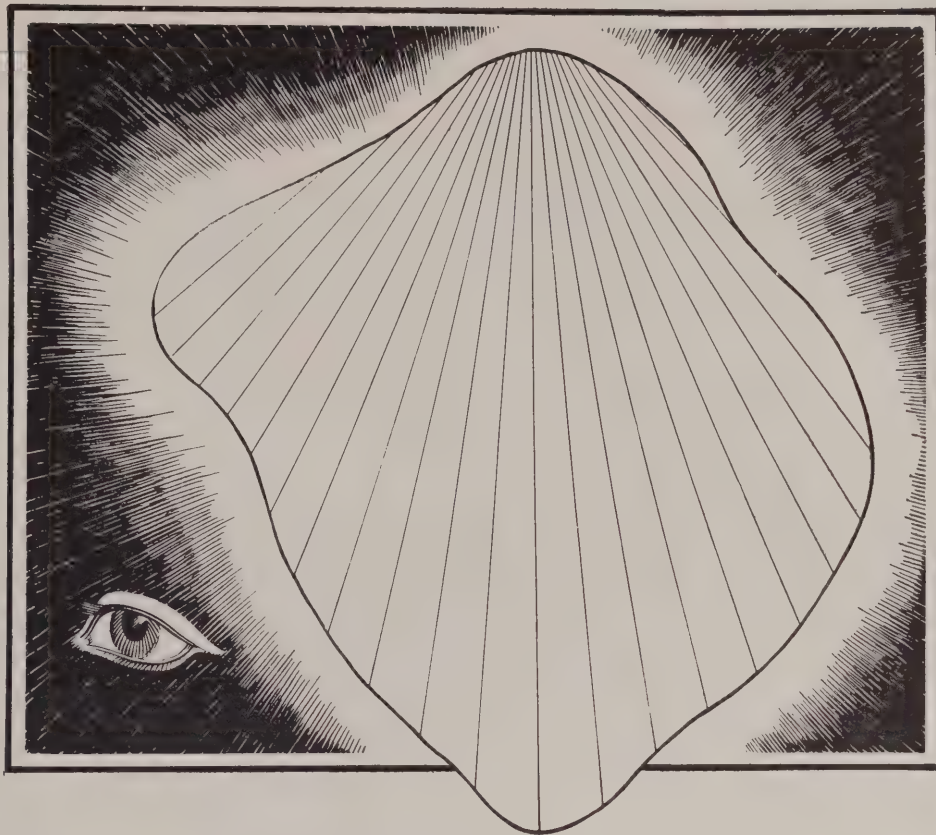
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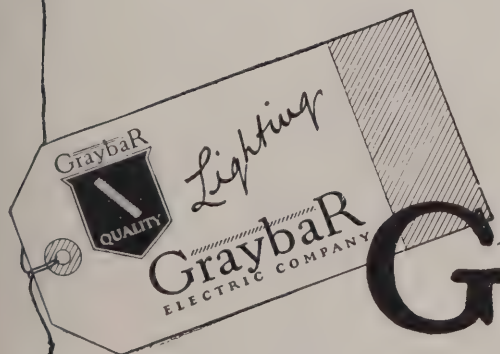
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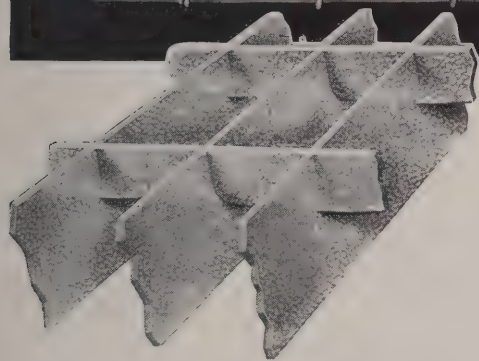
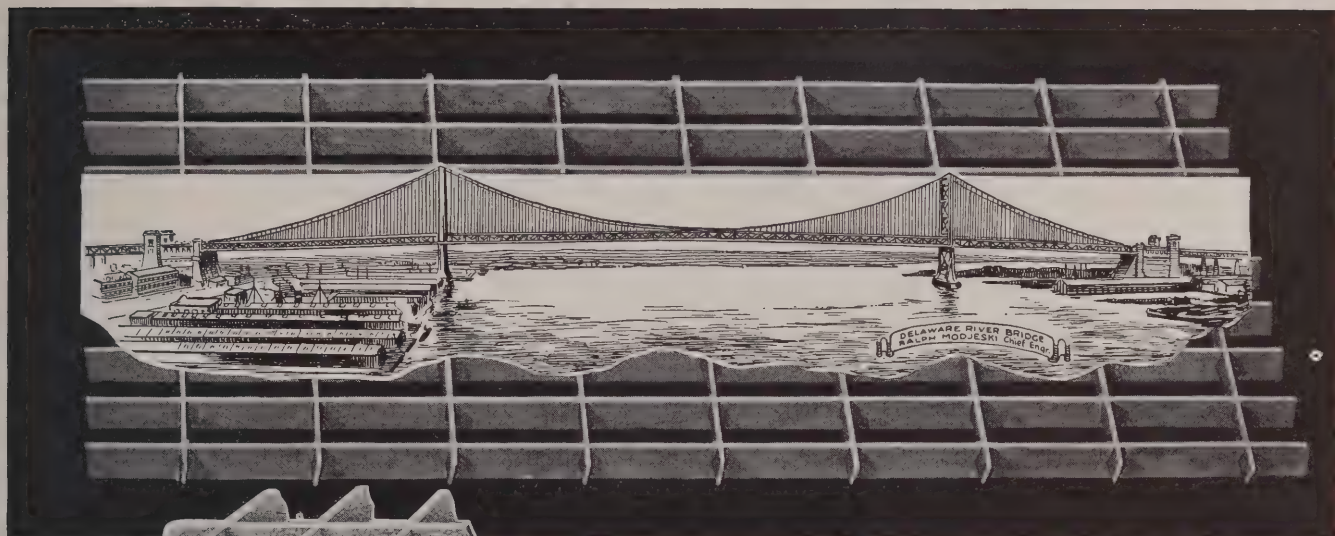


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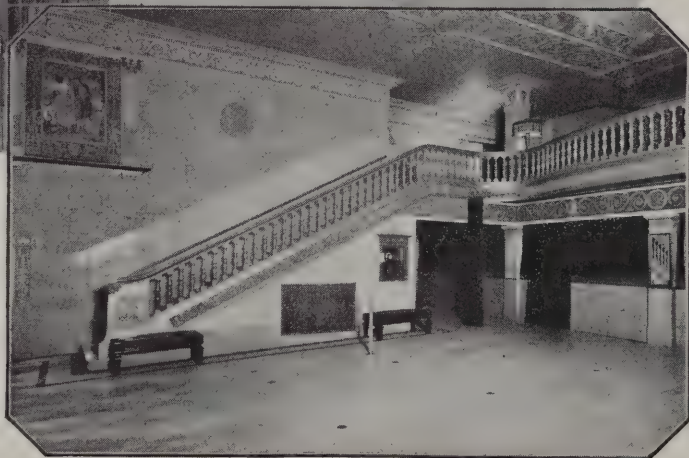
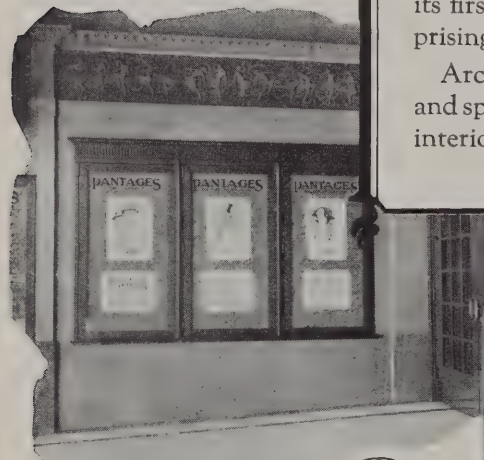
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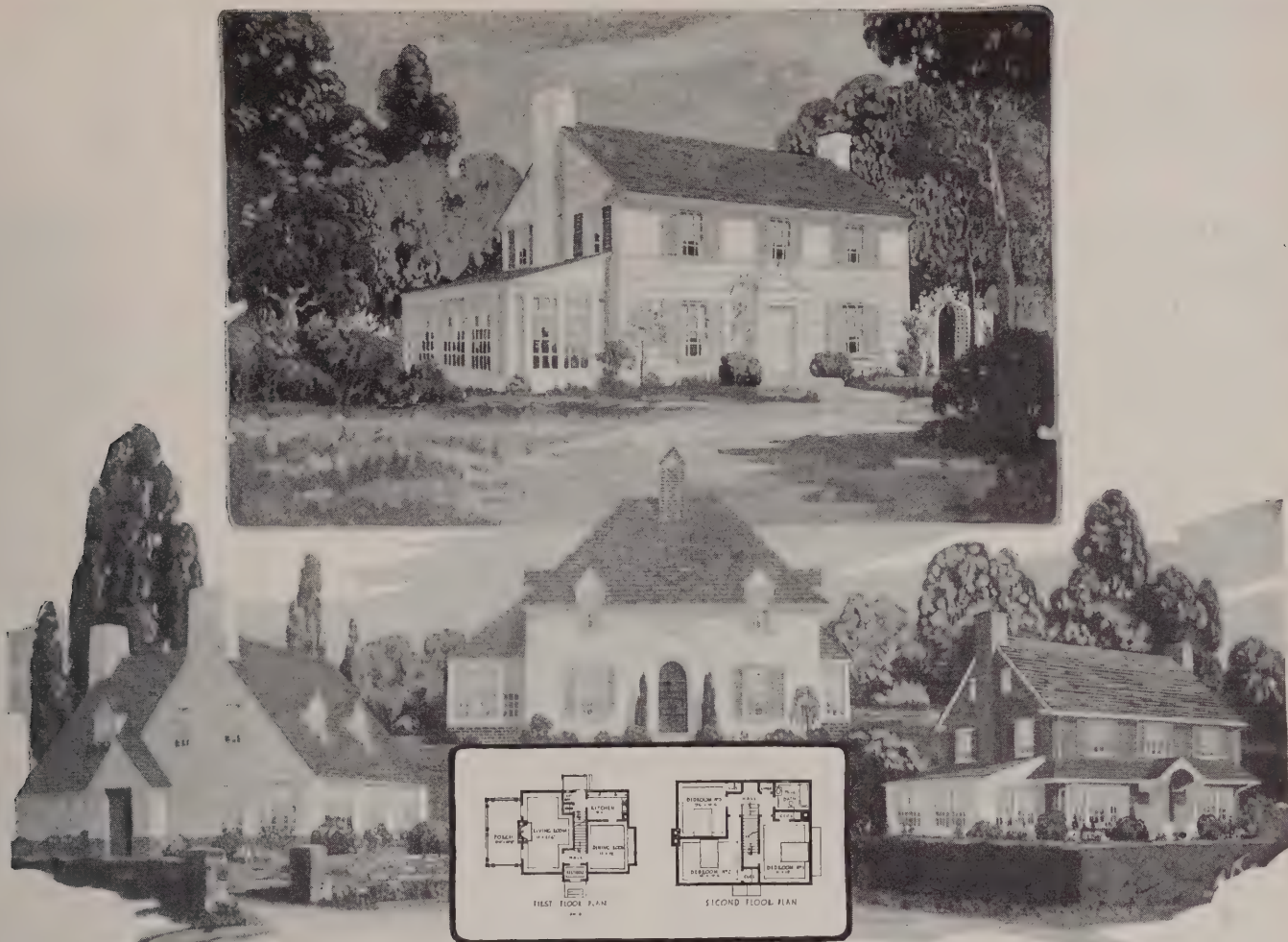
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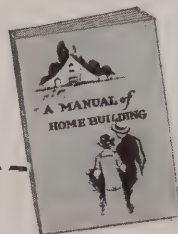
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# BOOK DEPARTMENT

## The Romance of Design

A STUDY OF ORIGINS

THE study of design is indeed deeply absorbing. From the beginning of recorded time no race has existed which failed to express in some form its ideas of beauty and ornament, and the most ancient of existing ruins gives mute though eloquent testimony of the appreciation of the value of line and the importance of color which was held by the artists of one or two or three thousand years ago. Moreover, the understanding of design and color developed with the advance of civilization, continually changing as the genius of one age added to what had been acquired before, placing the stamp of its era upon the history of design before giving place to another age which should, in turn, add its treasures to the already vast accumulation.

Few if any manufacturers have devoted quite the same attention to design which its study has received at the hands of Cheney Brothers. A large and old firm of weavers of silk fabrics, it is, of course, very largely dependent upon the resources of design, and for many years the house has been doing everything possible to develop in the schools the possible talent of young designers; it has also gathered from all parts of the world examples of the fabric weaving of past ages which might serve to inspire present-day designers or even lend themselves to reproduction, a fabric being reproduced, perhaps, not only in the colors of the sample obtained but in many colors and color combinations, possibly in all which give promise of being popular with modern architects and decorators. This valuable volume, therefore, might be described as at once an important contribution to the history of design and a record of the treasures which have been gathered by the firm, the basis of countless modern reproductions.

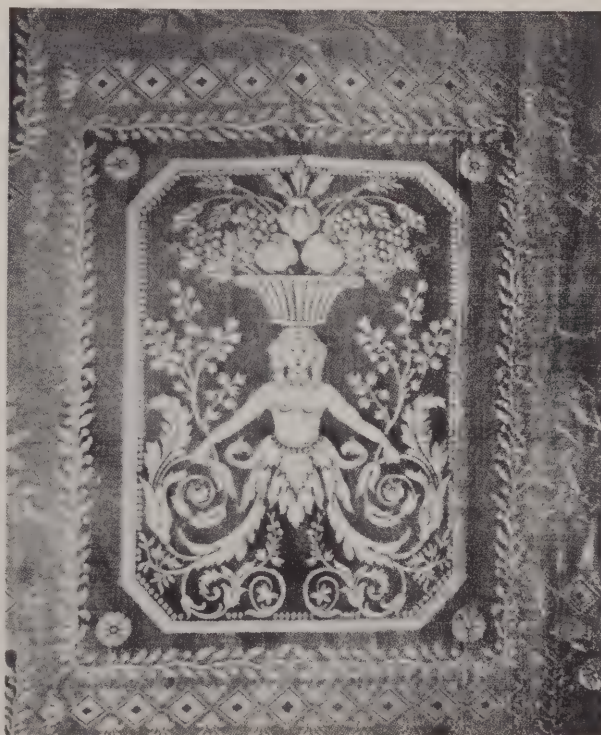
The work covers, quite logically, the study under headings of the different races, countries, provinces or cities which were active in creating design,—or else under headings of the various dynasties or reigns, or the periods of time during which design made conspicuous advance or attained to certain heights of excellence.

Thus the study begins with Egypt, Crete, Babylonia, Phoenicia, Persia and China, and is continued in different lands through various eras,—Italy of the Renaissance, France during the reigns of the different Louis, England in the days of the Tudors, Stuarts and Georges, and so on into the present era, when the world regards

itself as the heir of all the ages and the inheritor of all the treasures of the past. The work, as its title indicates, considers the history of design as such rather than the matter of application of design to the weaving of fabrics, which by their very nature are perishable; valuable examples of design have been gathered from mosaic, wall ornament, vases, pottery of many kinds, and from other sources. Viewed in one way design might be regarded as one recorded interpretation of the spirit of the age which gave it birth,—or possibly as an indication of the different elements which entered into the composition of the country in question—or else of the state of the nation at a particular time. Thus, for example, the joyous and wholly free and untrammelled design of Renaissance Italy;

then the design of Spain, strongly tinged as it is with motifs inherited from the Moors, "who had for seven centuries struggled upon Spanish soil," merged with other motifs of the Christian-Spanish, who in turn had learned the weaving craft from the workmen of Sicily; or else the gorgeously florid and splendidly ornate design of France during the reigns of Louis XIV and Louis XV, when, if ever, monarchy reached its apogee.

This work is a valuable contribution to the study of design, as has already been said. It is hardly possible to consider design wholly apart from its period, and the co-authors have placed due emphasis upon the importance of both the divisions of the subject. The carefully selected illustrations are of course a powerful aid to the students' understanding of the matter.



Octagon, Lozenge, Fruit and Foliage Motifs in a Directoire Fabric

**THE ROMANCE OF DESIGN.** By Garnet Warren in collaboration with Horace B. Cheney, of the firm of Cheney Brothers. 237 pp., 9 x 12 ins. Price \$7.50. Doubleday, Page & Co., New York.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM



## HOUSE & GARDEN'S Second Book of Interiors

EVERY little while a new volume is added to the HOUSE & GARDEN series, which deals with houses, their exteriors and interiors, and their gardens. In this, the latest and by far the most helpful and stimulating of these volumes, there has been collected the very best of the invariably excellent matter which has appeared in HOUSE & GARDEN during the past year or two. It is a volume valuable alike to the architect, the interior decorator and the home owner, as well as to the large number of people casually interested in interior decoration.



SEVEN hundred illustrations deal with every department of the house,—entrance porches, vestibules and halls; reception and living rooms; libraries, dining rooms and kitchens; stairways; bedrooms and bathrooms; verandas and terraces, all these illustrations presenting the most perfectly planned and beautifully arranged examples, the greater part of which are of distinctly moderate cost. Other departments deal with color schemes of which a great many are suggested; with accessories, such as bookcases and built-in bookshelves; lamps and lamp shades; mirrors and other details of furnishing; and one section is given up to illustrations and text which make entirely plain the types of furniture of the different historic periods.

*It would be impossible to over-emphasize the value of this work to anyone interested in its subject.*

223 pages. 9¾ x 12¾ inches. Price \$5.

**ROGERS & MANSON COMPANY**  
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ARCHITECTURAL CONSTRUCTION, VOL. II. By Walter C. Voss and Edward A. Varney. 224 pp., 8¾ x 11½ inches. Price \$6.50. John Wiley & Sons, Inc., New York.

THAT it is not possible to draw a line which completely and definitely divides architecture and building is suggested by this volume. In the construction of all our modern buildings of any prominence, and indeed even in some of our simpler structures, the mind trained in engineering principles works in close harmony with the mind evolving the architecturally serviceable and beautiful. In our more pretentious buildings, involving the use of complicated designs in wood, steel or concrete, the architect relies almost entirely upon the engineer for all structural advice. A sympathetic knowledge of the principles underlying the other's field by each party to this partnership is indispensable, not only from the viewpoint of economy and serviceability, but also because of the broadening influence which such a knowledge lends each in appreciating both the architectural and structural limitations in juxtaposition.

This volume dwells upon the importance of various types of construction,—wood, steel and concrete. Each of these forms of building has become a specialty, and each is entitled to the analysis which the authors have here brought to it. The work is of course prepared with the latest and best practice in view, and this gives it an added value to builders and architects.

ARCHITECTURE EXPLAINED. By Howard Robertson. With An Introduction Note by J. C. Squire. 212 pp. 5 x 7½ ins. Price \$2.50. George H. Doran Company, New York.

PERHAPS as one result of the discovery that notwithstanding its countless manifestations people are still more or less ignorant of just what architecture really is and of just what its functions consist, many writers on architecture have during the past few years been putting forth works calculated to exert an educational influence. These volumes as a rule have a high value, not only to the general public (to which they are primarily addressed) but also to the educated laity, and even to architects themselves, since it is likely to be helpful to have expounded, re-stated, or perhaps re-cast the fundamentals upon which rest any art and the principles or ethics which guide its developments in their relations with the modern world.

One objection which even the intelligent reader is likely to find to many of these works is in regard to the point of view from which they are written. Many writers seem to forget that they are addressing a public presumably misinformed,—or else un-informed,—and instead of explaining in plain English just exactly what architecture is or what it is meant to do they adopt what might be called an "essay" style of writing which abounds in deep, philosophical reasoning and subtle and profound considerations; or else they use a highly rarefied kind of writing, which since it is entirely above the heads of ordinary readers ends by mystifying or badly confusing the very public which the writers presumably meant to instruct. In fact it might seem that a large part of the public's ignorance of architecture is one result of the way it has been written about by writers from the great Ruskin down. Mr. Robertson has gone about it in an entirely different way. Without using a "primer" style of writing or even that of a "Second" or "Third Reader" he says what he means in words not likely to be misun-



derstood by anyone sufficiently interested in architecture to read about it at all or even to desire to be instructed.

After an Introduction by the editor of *The London Mercury* and a Preface, Mr. Robertson considers generally the subject of architecture, explains its functions, and reviews the history of the architecture of the races of the ancient world which has largely influenced that of the modern. The progress of architecture during the Gothic and Renaissance periods is traced, and analysis is made of the development of style in western Europe, Germany and Holland. American architecture is adequately treated, and among the illustrations are included those of such notable examples as Jefferson's Rotunda of the University of Virginia and Mr. Hood's American Radiator Building. The way to further and deeper study of architecture is pointed out in the bibliography.

**SHIP MODEL MAKING.** By Captain E. Armitage McCann. 129 pp. 6 x 9 ins. Price \$2.50 Net. The Norman W. Henley Publishing Co., New York.

IN the development of a building of almost any kind a model is often found to be of considerable aid in affording an idea of the appearance of the structure when completed. Just so with the building of a ship, for the appearance of a vessel cannot always be gathered from an elevation or a perspective drawing nearly as well as from a model, carefully made to scale and provided with all the accessories which it is proposed to use for the vessel as actually built. For centuries the making of models of vessels has been carefully studied. The offices of the British Admiralty, for example, contain models of famous battleships or merchantmen built at various times since the era of Queen Elizabeth, when there were laid the foundations of Britannia's rule of the waves, and in the club rooms of some yachting and boating clubs there are models of many prize-winning yachts or other vessels which have won fame. These models, moreover, often possess a considerable decorative interest which exists entirely apart from their architectural value. Recognition of this interest has led to the reproduction of many models of ancient ships, the decorative value of the models often being attained at the cost of a complete disregard of scale, historical accuracy, and everything else which might interfere with a model's value as ornament or its interest in the way of design. As real models they have but a small value.

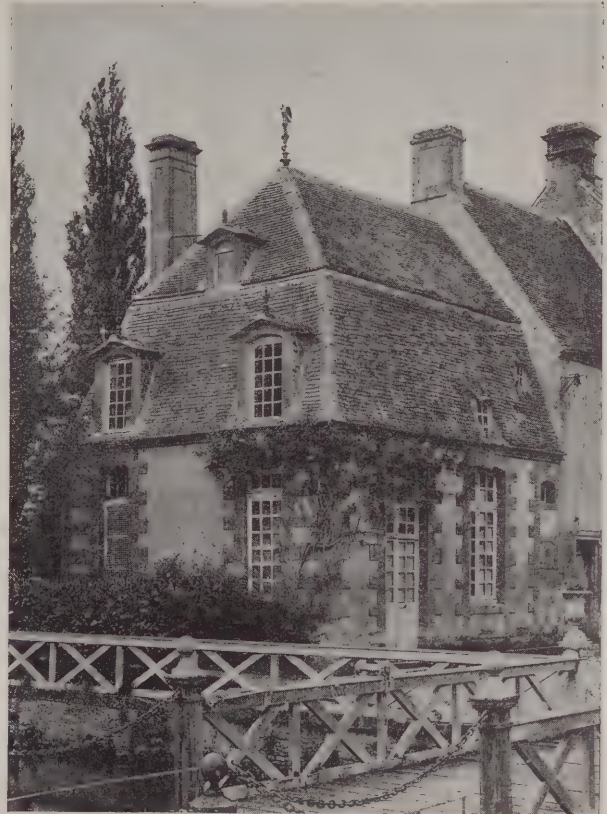
Captain McCann's work has as its sub-title "How to Make Worth-while Models of Decorative Ships," preserving both the ornamental value of the model and its fidelity as a model, which of course is a reproduction in miniature. He follows from beginning to end the making of two models, those of a pirate's galley, propelled by oars, and a Spanish galleon driven by the action of wind against spreading sails. He describes the materials and tools to be used, and since drawings of almost every part are included, the amateur maker of a ship model may be reasonably sure of being able to finish it.

Entirely apart from their value as decorations, ship models have an importance which is architectural. There are few departments of building more important than that of vessels, and it might almost seem that naval architecture, as such, is in danger of being forgotten in these days when the construction of a ship seems to concern the engineer rather more than it concerns the architect.

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**NEW BUILDING ESTIMATORS' HANDBOOK.** By William Arthur. 14th Edition, Revised and Enlarged. 1048 pp., 5 x 7 ins. 600 Tables, 467 Illustrations. Price \$6 Net. Scientific Book Corporation, 15 East 26th Street, New York.

**T**HE fact that 13 editions of a work have been absorbed by the public is assuredly ample warrant for the publication of a 14th, particularly when the new edition includes subject matter wholly new, relating to building practice or custom which has come into use only during the past few years. Particularly since the World War period, and even more particularly since the increased costs which war involved have made any sort of building difficult, there has come upon the part of architects and builders the exertion of every possible effort toward economy,—use of new materials, new and better methods of using all materials, and everything else which by lowering construction costs might promote the erection of buildings. This applies to all building types.

Mr. Arthur has made a genuine contribution to the building trade by supplying a compact and authoritative guide, presented in a way that makes it usable and invaluable to every contractor, builder and engineer. There is, perhaps, no writer better qualified as an authority on this subject than Mr. Arthur, since his experience has covered a great number of years in building estimating. Yet, in compiling this book, the author has drawn upon not only his own experience, but in addition that of the leading industrial concerns in America allied with the building trades. In a concise and understandable way, he has taken the data and presented them in the form of a ready reference guide which will hardly be allowed to accumulate dust on the builder's or the contractor's desk.

Unquestionably, the most valuable feature of the book is the complete set of tables, which cover all phases of estimating in the entire structural field. In the computations of many estimates, for example, flexibility is gained by using a flat rate unit per hour, based on one dollar per hour for mechanics and 60 cents per hour for laborers. Thus, by using this basis, the carpenter or builder may readily adapt the tables to any local rate. Considerable attention is given all through the book to the time required to install materials, and this is so arranged that any rate of wages can be applied. The system is simple.

The previous edition of the book was entirely revised, reset and considerably enlarged. In the present most complete edition, there have been a number of revisions on scattered pages, some new material added, and an entirely new complete index prepared, which facilitates the use of the book for quick and satisfactory reference.

**HOOKEED RUGS AND HOW TO MAKE THEM.** By Anna M. Laise Phillips. 154 pp. 4½ x 6¾ inches. Price \$2. The Macmillan Company, 60 Fifth Avenue, New York.

**L**IKE certain other crafts, the making of hooked rugs has experienced a marked revival under the impetus given by present-day interest in architecture and interior decoration. Mrs. Phillips has made a careful study of the making of such rugs and carpets and those of a more or less similar order, and this little manual deals with the subject in a way so practical and helpful that it is likely to stimulate the use of such rugs as well as the making of them. The usefulness and adaptability of these rugs give the volume value to interior decorators and architects interested in domestic work and its decoration.

## The Practical Book of Tapestry

*By George Leland Hunter*

**T**HE intimate connection between tapestry and architecture as well as the frequent use of architectural motifs in tapestry design gives to tapestry and its history an interest to architects which is strong. Primarily associated with the Gothic age, which saw what were perhaps the most brilliant of its triumphs, tapestry has been identified with the development of all of western Europe and with the different periods—the Renaissance, early and late; the Baroque age; the eras of the different Louis; and in later days with the

various places where looms have been set up and where present-day workers are engaged in creating by use of old-time methods those marvelous weaves which add to any surroundings where they are placed a richness of decoration which confers dignity and splendor to the place where they are used. No study is more absorbing than that of tapestry.



**I**N this volume is given a complete review of the subject of tapestry. The author has made a deep study of tapestry's history and is familiar with every important example in the world. The volume deals also with the technique of tapestry weaving, the changes and development of its design in different countries at different times, and it goes at length into descriptions of modern looms where this ancient art has been successfully revived. The illustrations, many in full color, add to the reader's interest. All are from photographs made especially for this work, and many show the student for the first time examples of tapestry weaving of the first importance. The volume is particularly valuable by reason of its accurate documentation and full bibliography and because of its giving the names of places where there are to be seen the most important tapestries now in existence.

Richly illustrated in half-tone and full color. 302 pages; 6½ x 8¾ inches. Price \$10.

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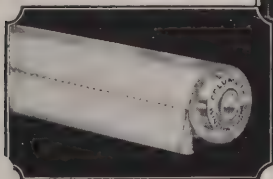
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# The ARCHITECTURAL FORUM

VOLUME XLV

NUMBER 3

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PARKER MORSE HOOPER, A.I.A. Editor

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# THE EDITOR'S FORUM

## 1927 ARCHITECTURAL EXPOSITION

**O**FFICIAL announcement of the organization, committees, and scope of the second Architectural and Allied Arts Exposition to be held under the auspices of the Architectural League of New York in the Grand Central Palace, New York, February 21 to March 5, 1927, has been issued by officials of the Exposition. There will be an unusually strong and comprehensive representation of the architectural profession as well as of the allied arts in its directorate and standing committees. The management and committees have already progressed far in their plans, and have assurance that the Exposition will constitute an unrivaled presentation of the achievement of the professions. Important conferences and meetings in connection with the exhibition will bring delegates from the architectural and allied professions from all parts of this country and Europe. The exhibits will constitute a comprehensive presentation of much that is notable in architecture, sculpture, arts and crafts, decorative materials, building materials, utilities and equipment.

In view of the general interest and educational stimulus which such an exhibition must encourage and foster, representing as it does an expression of the fine arts on one hand, and their practical application to the everyday life of our people on the other, the influence of the Architectural and Allied Arts Exposition will be far-reaching in its effects. Charles H. Green, 105 West 40th Street, New York, is Managing Director. Harvey W. Corbett is Chairman of the General Exposition Committee, other members of which are D. Everett Waid, Alfred C. Bossom, Raymond M. Hood, Julian C. Levi, John Russell Pope, Cass Gilbert, Dwight James Baum, William A. Delano, Leon N. Gillette, Joseph H. Freedlander, Charles W. Leavitt, Grant C. LaFarge, Ely Jacques Kahn, C. P. H. Gilbert, Lansing C. Holden, Edward York Palmer and Stephen Francis Voorhees. Howard Greenley, who decorated the 1925 Architectural and Allied Arts Exposition, is again Director of Decorations. Walter T. Sweatt is Director of Exhibits. Hamilton M. Wright, Director of Publicity of the 1925 Exposition and of the Architectural League, and whose work dates back to the Panama Pacific Exposition in 1915, is again directing the publicity for the Exposition's promotion.

These committees of the Architectural League of New York are handling the work on the Exposition. President: Alexander B. Trowbridge. Committee on Architecture: Raymond M. Hood, Chairman; Frank J. Forster, Julian C. Levi, William F. Lamb, Otto Langmann and Frederic C. Hirons. Committee on Decorative Painting: Ezra Winter, Chairman; Arthur Covey, D. Putnam Brinley, Eugene Savage, J. Scott Williams and Fred Dana Marsh.

Committee on Sculpture: Chester Beach, Chairman; Edmond Amateis, Edward McCartan, A. A. Weinman and John Gregory. Committee on Landscape Architecture: A. F. Brinckerhoff, Chairman; Armistead Fitzhugh and Robert Ludlow Fowler, Jr. Committee on Crafts: Leon V. Solon, Chairman; Ely Jacques Kahn and Horace Moran. Committee on Foreign Exhibits: Charles Butler, Chairman; William A. Delano, Aymar Embury II, Raymond M. Hood, Ernest Peixotto and Julian C. Levi. House Committee: Arthur L. Harmon, Chairman; Rutherford Boyd and Cameron Clark. Committee on Competitions and Awards: Dwight James Baum, Chairman; Edward Field Sanford and Taber Sears.

## A COMPETITION IN FLORIDA

**W**ITH the idea of promoting the development of Miami in a manner which will make the most of its advantages in the way of climate and scenery, and to secure as far as possible order, uniformity and symmetry in its streets and public utilities, announcement is made of two competitions to be conducted by the Biscayne Boulevard Association. One of these competitions is for the most appropriate designs for street traffic signal towers and for street lighting standards, which should also give the names of the streets; the aim in conducting the other competition is to secure the most pleasing designs for the filling stations which supply fuel oil to motorists. Controlling as it does through its members more than 80 per cent of the property affected, the Biscayne Boulevard Association is anxious that these necessary developments be directed to the betterment of the highways rather than, as only too often happens, to the disfigurement of the entire community.

The Biscayne Boulevard Association agrees to award to the winners, within five days after the judgment of the jury, \$4,650 in prizes as enumerated under the head of each competition. The Association has selected Eliot Cross, of Cross & Cross, Architects, New York, Elmer C. Jensen, of Mundie & Jensen, Architects, Chicago, and James H. Gilman, City Commissioner and President of the Bank of Bay Biscayne, Miami, to act as jurors, and Dwight James Baum, Architect, New York, and Harry F. Cunningham, Architect, St. Petersburg, Florida, as alternates for these competitions. The Association and the competitors agree that the jury has the authority to make the awards and that their decision shall be final. The Association has appointed Bennett, Parsons & Frost, Consulting Architects, 80 East Jackson Boulevard, Chicago, to serve as professional advisers for the competitions. Details regarding the competitions, which close October 1, 1926, may be had of Harry T. Frost, Columbus Hotel, Miami.

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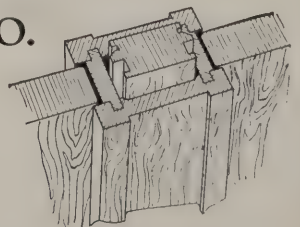
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SCOTTISH RITE TEMPLE, WASHINGTON  
JOHN RUSSELL POPE, ARCHITECT

From a Photograph by John Wallace Gillies



# The ARCHITECTURAL FORUM

Volume XLV

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## The Architecture of Fraternal Buildings

By HARVEY WILEY CORBETT

WE hear a great deal these days about "the literature of escape." The phrase seems to have been coined as a convenient label for stories of romance or adventure, any tale in fact that serves to transport the jaded city dweller, surfeited with the din of clanging streets and jazz orchestras, to some fair land of perpetual sunshine, where languorous maidens strum dulcimers all day long, and the only prohibition is against getting up early in the morning. By a not too far fetched analogy, fraternal buildings might be called the "architecture of escape," in that they offer a certain refuge from business cares, from family ties worn a bit thin from constant use; in short, from every kind of responsibility. The lodge is the one place where "the wife" cannot go, unless she is jolly well invited on a special day. At the theater the kids may romp up and down the aisles,

or get their candy tangled up in your hair, or try to pluck the posies from the hat belonging to the fat lady in front; but the lodge is sacrosanct. All of which has a great deal to do with its increasing popularity!

Although the actual data in my possession are a little bit inconclusive, I seem to see the origins of fraternal architecture stretching far back into the dim recesses of time, even to the ancient cave dwellers. When the cave man returned from his forays in the forest, bearing a gazelle or two upon his back, we can picture his eye agleam at the thought of an evening with the "boys." Although poker had not been invented then, there

were plenty of bones about, and probably there would be a nice little crap game going on. After dinner he gave his spouse a tender left hook to the jaw and the kids an affectionate scuff in the ribs, and climbed to the highest cave of all,—to the lodge. This ancient lodge, like its modern counterpart, was sacred to the male. The cave dwellers took no chances, and made it inaccessible to the less agile female of the species. Let us take as an example Lodge No. 1, Loyal Order of Dinosauria, which is the earliest example of fraternal architecture we know. Even compared to the better class of residential caves, it was a veritable palace. And why not? Wasn't its construction the result of the loving labors of all the adult males in the colony instead of just one? Wasn't it financed coöperatively by regular dues of ivory tusks and animal hides? Why,

there wasn't a cave man in the whole region who could have afforded such luxurious fur carpets for his floors, or could have served such luscious tidbits as appeared on the lodge table when the famous chef of Lodge No. 1, L. O. D., spread out the supper in the lodge room on Saturday nights!

After most exhaustive researches I have been able to determine beyond the faintest shadow of a doubt that many of the early cave men, as far as rough tactics were concerned, were not all they have been cracked up to be. Not half enough credit has been given to the cave woman in that respect. The henpecked husband was perhaps more of a rarity then than now, but he existed



Entrance, Elks' Club, Elmhurst, N. Y.  
The Ballinger Company, Architects





Masonic Temple, East Providence, R. I.  
William G. Upham, Architect



Entrance, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects

nevertheless. And what was a man going to do if his wife wouldn't let him have a wee nip of something stronger than spring water in his own cave? Why, climb up to the lodge, of course. Like today, the early lodge solved a great many of the more delicate problems of family life. I dare say that if the records were complete enough, we might find that many a cave man went tiptoeing up the hall steps late at night, sandals in hand, only to be greeted at the top by a strapping cave woman brandishing a rolling-pin,—and not a wooden one either!

It would be a pretty task for the historian to trace the evolution of fraternal architecture down the ages. Doubtless there were times when fraternal orders, due to the peculiar temper of the period, were almost moribund. Perhaps in the middle ages in northern Europe, when the Church absorbed the larger part of social and professional life, monasteries served as a substitute for fraternal organizations. The Renaissance stressed the arts, and probably the various guilds in their turn provided the kind of social life that is craved by that social animal, man. However that may be, it is evident that fraternal orders play an ever-growing part in the social life of the modern community. The reason is not far to seek. Religion does not foster the clan spirit in so absolute a fashion as it has done in the past. Specialization, division of labor, and diversity of outlet have killed the guild idea. The old fashioned craftsman who produced a shoe or a chair through every step from raw material to finished product, has gone the way of all flesh. Labor unions are too vast and conglomerate to take the place of the old guilds in their social aspects. So the ordinary man has recourse to clubs and fraternal orders, preferably the latter, because of their allure of secrecy and their vivid ritualism.





Ainiad Temple, East St. Louis, Ill.  
William B. Ittner, Architect

Furthermore, the fraternal order has increased in popularity almost in direct proportion to the passing of the old fashioned home. There was a time when the home was a complete plant in itself, supplying every need of life. It offered shelter, food, entertainment and hospital care. It was a hotel, a restaurant, a theater, and a home for the aged and infirm, all rolled into one,—not to speak of a refuge for indigent relatives, and a wayside tavern for almost any acquaintance (or even a stranger, for the matter of that) who might happen along. It does not take much imagination to see that, as an establishment, it was a whole lot more absorbing and entertaining than a five-room flat in the city. When the wife and children got on papa's nerves, he could go out and hoe corn until his annoyance had subsided. He could even sleep in the barn, if the air became too thick. In an apartment he can't lock the children in the attic, for the simple reason that there isn't any attic. Things are changed in many ways.

The modern fraternal lodge has taken over the greater part of the functions of the old fashioned home, and it is that which makes its architecture such a complicated and delicate problem. Especially in a large city, it is hotel, restaurant, theater, gymnasium and office building combined. It must contain, in addition to the secret rooms, a group of assembly rooms, an auditorium, billiard rooms, bowling alleys, swimming pools, and many other facilities. Furthermore, the architect who undertakes to plan one of these buildings finds himself confronted with the requirement of making many of these spaces adaptable to several different purposes. The restaurant must be turned into a ballroom, the theater into an assembly room, and the lounges must be conformable to manifold systems of decoration for festive



Entrance, Elks' Club, Philadelphia  
Andrew J. Sauer & Co., Architects





Perspective, New Building for Elks' Lodge No. 22, Brooklyn  
McKim, Mead & White, Architects

occasions. This complicated interior, of course, affects the exterior design in a marked manner. To coördinate these widely different elements in a single building, and still give homogeneity and dignity to the whole, is a task worthy of the most accomplished designer. As far as style is concerned, there seems to be no definite tradition which would dictate the use of a particular period for this type of building. Hence we find modified Gothic buildings, modified Classic structures and, sometimes, as in one recent example in New York, the Mecca Temple, an Oriental influence predominating. Where the chief element in the problem is a huge auditorium, as in the last mentioned example, this treatment of the design is appropriate enough. In other large city structures, where the combination of interior ele-

ments is more varied, and where the plot area is limited, various versions of Gothic have been successfully employed. There is a tendency in smaller cities, however, to secure for fraternal buildings as much plot area as possible, and to treat them as free-standing, monumental structures in which case Classical design is most frequently used. A marked characteristic of such buildings is the small number of windows, and secret rooms depending chiefly on artificial illumination. Some very fine structures of the combination type have been recently erected. The addition of office space which can be rented at a high figure, thus helping to make the plan self-supporting, often solves the problem of maintenance, and makes possible locations in crowded centers where otherwise taxes would be prohibitive. In





Perspective, New Club House for Knights of Columbus, New York

Edward F. Fanning, Architect

these buildings the dark areas in the interior are used for lodge rooms, where natural light is not essential.

It has been well said that at 18 a woman is as old as time, but that at 80 a man is still a boy. The cares of the world are forever on women's shoulders, but a man can shake off worry as he would shed his coat, and have a good time being just as foolish as a five-year-old. When women organize a club, their purpose is usually serious. They have ponderous meetings to discuss social welfare, civics, music, art, literature. They give teas for celebrities, and have lectures and music recitals, and indulge in a dozen other activities for promotion of self-improvement.

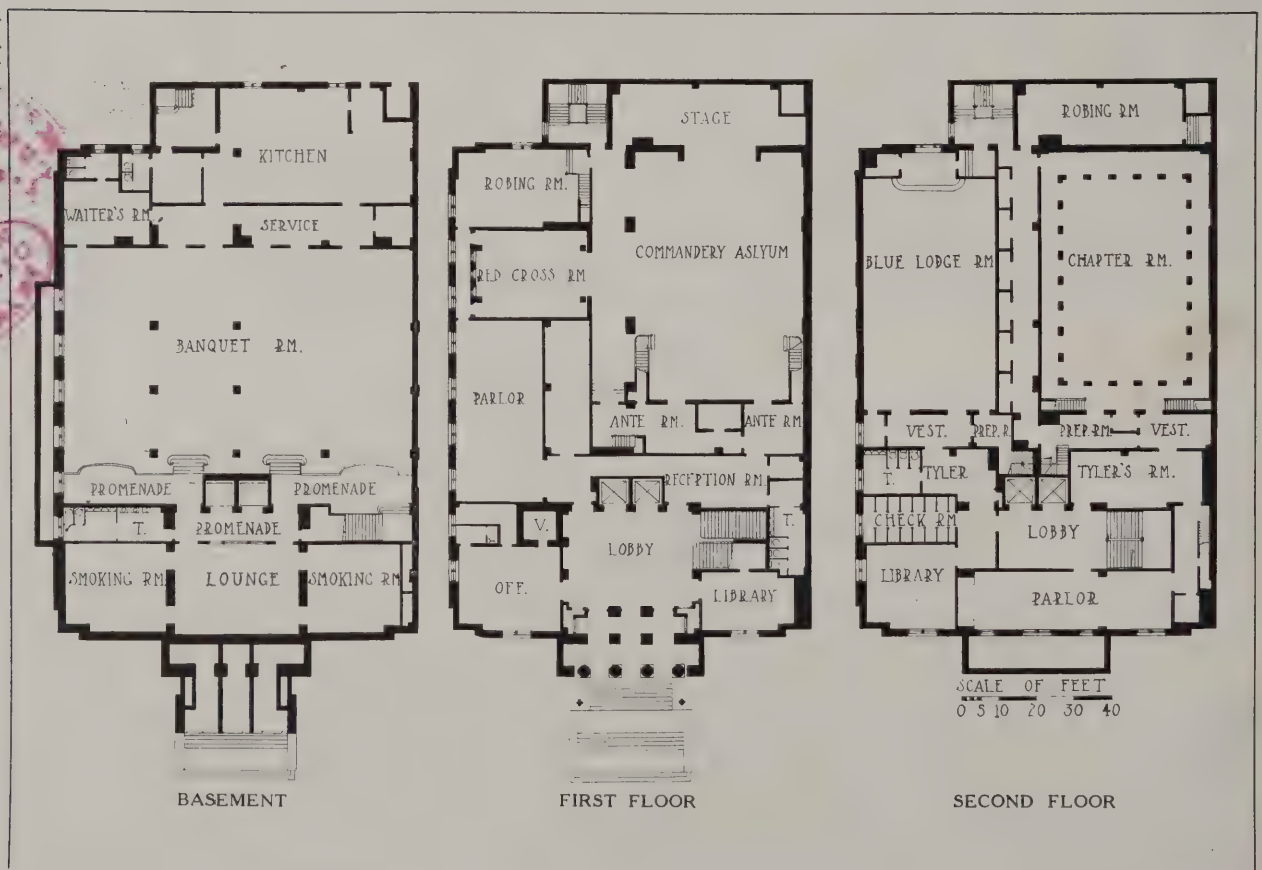
Men are different. They never join clubs to be improved; they join them to have a good time. If having a good time means a certain amount of seri-

ous ritual, why so much the better. That is an added attraction. Has it ever occurred to you that men really like to dress up just as much as women? The only difference is that a man will wear a brilliant costume only in crowds similarly costumed. He loves parades, and brass bands, and ceremonies, but not during the day, when the serious business of earning daily bread is uppermost. Then he dresses as inconspicuously as possible. But put him in a club or a fraternity or at a reunion, where everybody else is doing the same thing, and he will strut about in his fine feathers like a cock of the walk. It is this love of show, so sedulously suppressed during working hours, that comes to the fore when a man is at play. He expresses it in his desire for elaborate surroundings in his lodge building as well as by





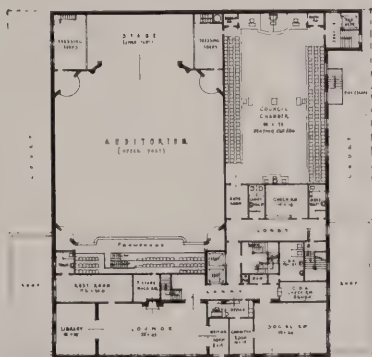
MASONIC TEMPLE, ALLENTOWN, PA.  
R. G. SCHMID & CO., ARCHITECTS



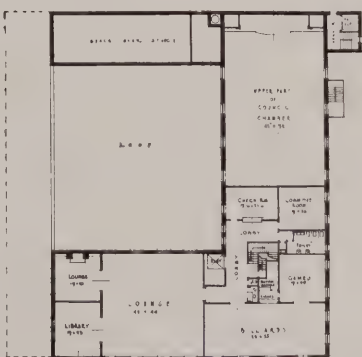




PERSPECTIVE, NEW CLUB HOUSE FOR KNIGHTS OF COLUMBUS, OMAHA  
LEO A. DALY, ARCHITECT



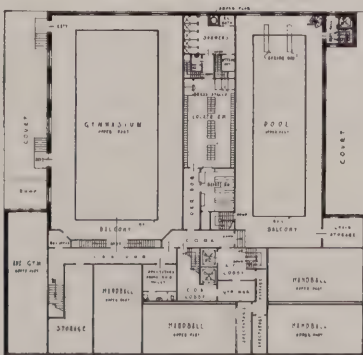
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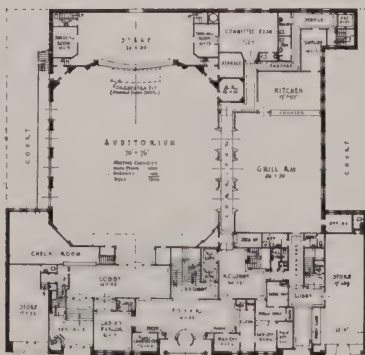
THIRD FLOOR



BASEMENT



BASEMENT MEZZANINE



GROUND FLOOR

colorful costumes. And from an architectural point of view that is perhaps not conducive to the utmost simplicity of design. Many a fraternal building has been spoiled by being overburdened with elaborate detail.

To be sure, the approach to the problem of design is somewhat different from that of most other buildings. Whereas a home or an office is used every day, a fraternal building is visited by the average individual only a few times a month. The architect can afford to be a little richer, a little more elaborate in his interior effects than he might dare to be in a place continuously lived in, but the exterior of the building should be handled with respect for its locality, with regard for its neighbors, and with appreciation of the fact that it is seen and enjoyed (perhaps) by thousands of passersby who may take pride and satisfaction in it every day of their lives.

There was a time in this country, during the dark ages of art which immediately followed the Civil War, when architectural styles meant little or nothing to the average citizen;—that period so well summarized by Simeon Ford as the time when the average man didn't know the difference between Louis Quinze and tomato cans; that period when you could count the real architects of the country on the fingers of one hand and be somewhat in doubt as to what name to give to the little finger. Today, however, even the man in the street knows something about architectural styles, and the woman in the culture club knows more about them than many an architect. Our architectural schools lead the world. Our students are trained purists, and our architects follow established precedents with a knowledge of forms and an appreciation for refinement of detail that make the foreigner gasp. Architecture is now popular.

But in this respect, as in all others, America moves rapidly. Mere knowledge of styles has become a commonplace; something more is demanded. Trimming the mass of a building with architectural detail, no matter how pure it is in form or how true it is to established precedent, is not quite enough.

After all, mass, proportion, silhouette, relation of solid to void, must come first, and these must all be good in themselves. Then architectural style, which is really only another name for architectural unity, may properly follow. Dressing the homely fat lady in fine silks and laces helps some, but the bathing beauty needs few if any accessories. To be successful architecturally, a building must have proportion, and it is here that the fraternal building offers great opportunities, for the reason that it is not just a large collection of similar cells like an office building, or a small, rambling, variegated structure like a country house; it is generally large enough and massive enough in actual size to be a landmark in a community. It has large wall surfaces,—the one thing the architect desires most to work with and the most difficult to handle properly. It generally has form in the sense that it is not just a rectangular box, and if the architect has the genius so to dispose the various and variegated elements of his building that the combination builds up to a pleasing and satisfying mass, the particular "style" of architecture he wishes to use in his detail expression is not important. Not that I wish to suggest that architectural style is not a matter of mass, as well as of detail, but our modern buildings of all types, and particularly fraternal buildings, are so essentially a product of today that the possibility of finding a prototype among the structures of the past to even approximate the shapes demanded by the present is very remote. It is a problem of the present age.

Practically speaking, the most we can hope to do with this very modern problem is to give it some degree of unity by using a consistent "style of ornament," and if locality, environment, or the ritual of the particular organization does not suggest or dictate a style, then let the mass itself be the guide. A vertical mass suggests Gothic, a horizontal mass suggests Classic. These are the extremes; use them, play between them or beyond them, or be modern and design your own style, but be sure you do it well!



Detail of Facade, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects



# The Interior Architecture of Fraternal Buildings

By R. R. HOUSTON  
*Of the Firm of George B. Post & Sons*

THE designing of buildings for fraternal orders is a matter of especial interest because it offers the architect a unique opportunity for the exercise of imagination at the same time that it requires him to make provision for a number of special features dictated by ritual or custom. Structures of this type are, from their very nature, important in their communities, are usually placed on impressive sites, and in every way constitute a challenge to the architect to achieve something of real distinction. Speaking first of the Masons, the great antiquity of that body and its ancient affinity with the building trades have established a certain adherence to the use of the architectural styles of ancient peoples, notably those of the Egyptians and the Greeks, and especially in the case of the temples of the Shriners, of the Saracens.

It is not the purpose of this article to set forth the various ritualistic requirements of Masonic architecture, since these must, obviously, be fully studied by any architect engaged on the designing of a Masonic building, and must, equally obviously, be scrupulously followed. The consideration is, rather, one of the suitability and adaptability of certain styles as applied to the design of Masonic temples. Adaptations of ancient Egyptian architecture have always been favored, and if there has been any

general error in the utilization of the Egyptian, it has generally been in the direction of over-ornateness, which has defeated the sense of dignity and the large-scale effect which should characterize the lodge room. It is doubtful if Egyptian interiors, with certain admirable modifications, have ever been more impressively handled than by John Russell Pope in the Temple of the Scottish Rite in Washington. Some of the interiors of the Masonic Building in Allentown, Pa., R. G. Schmid & Co., architects, are in the more decorative phase of Egyptian architecture, where ornament takes the place of largeness of scale. Other lodge rooms have been treated, presumably as the ritual suggested, in adaptations of the Greek, in Italian Renaissance, and also in Gothic.

One of the most effective of the Masonic structures illustrated here is the Los Angeles Shrine Building, Al Malaikah Temple, of which John C. Austin and G. A. Lansburgh are architects, an excellent version of the Moorish type of Masonic structure. The pavilion is especially true to type, and the entrance loggia to the main building, together with the lounge within, achieves real distinction in use of this most difficult style, and possesses an architectural quality to achieve which should be the objective of any group which intends to so build.

Generally successful from the architectural as well



Parlor, Al Malaikah Temple, Los Angeles.  
John C. Austin, Architect; G. A. Lansburgh Collaborating



Lodge Room, Masonic Temple, Allentown, Pa.  
R. G. Schmid & Co., Architects



Lodge Room, Temple of Freemasonry, Madison, Wis.  
James R. & Edward J. Law, Architects

as from the Masonic point of view are adaptations of the Greek Doric, as in the Masonic building of Madison, Wis., James R. and Edward J. Law, architects. There is, in the Doric order, an inherent dignity or impressiveness admirably suited to Masonic design, whether for the exterior or interior. A seldom recognized peculiarity of the Greek Doric is its scale illusion, its property of suggesting a far greater scale than that at which it may actually be carried out. It is essentially a monumental style, and unquestionably one of the most appropriate for use in Masonic buildings. Like the architecture of ancient Egypt, it is an architecture of temple builders, and at whatever scale designed, invariably attains the quality of dignity appropriate for these uses.

Special considerations suggested the choice of the Colonial style for the Masonic Temple at Greenwich, Conn. (Plates 39, 40), George B. Post & Sons, architects. It was in this style that the original members of the order in and about Greenwich designed and built, and Masonry in this region is of very early establishment, numbering in its membership a great many architects and artisans in building construction. Following a custom of Masons throughout the world, the upper story of the building is used for the lodge room, and a special feature of this plan (back of Plate 39) is in the placement of the offices of the secretary and treasurer on either side of the



Lodge Room, Masonic Temple, Greenwich, Conn.  
George B. Post & Sons, Architects



master's dais, with a corridor connecting the two offices so that communication will not disturb the general functioning of the lodge room. Another practical detail of planning increases the seating capacity by placing the organ console and choir balcony over the warden's station. The first floor, with an ample lobby, provides for the club room, kitchen, billiard rooms, and banquet hall, the last so arranged that it can be used without disturbing the Masonic exercises, which are all held on the upper floor. As in all Masonic buildings, special details here inevitably engaged the architect's study and attention. All the furniture here is carefully reproduced from old Colonial models, long in use in Masonic buildings.

In the buildings of the Elks and similar social groups, there is considerably more architectural latitude permissible than in Masonic structures. We may find, for instance, lounges in English paneled treatments, with tall leaded windows and figured plaster ceilings, or interiors definitely Gothic, as in the Elks' Club house at Oakland, Calif., William Knowles, architect. The whole scheme in these club buildings, since making provision for elaborate ritualistic observances is not a major architectural consideration, is more that of a purely social club.

Certainly the most unusual architectural style chosen for any of the interiors illustrated here, is that seen in the Elks' Club at Elmhurst, N. Y., where



Lodge Room, Elks' Club, Philadelphia  
Andrew J. Sauer & Co., Architects



Lodge Room, Masonic Temple, Allentown, Pa.  
R. G. Schmid & Co., Architects





Lounge, Elks' Club, Oakland, Calif.  
William Knowles, Architect



Lodge Room, Elks' Club, Elmhurst, N. Y.  
The Ballinger Co., Architects

the architects, The Ballinger Co., have carried out, brilliantly and effectively, an adaptation of the highly decorative style of the ancient Maya builders of Central America. I do not know if the original architectural alliance of Masonry with the art of building corresponds with the art of building as

practiced by the ancient architects of the southern half of our continent, but there is an architectural style native to our own hemisphere, and peculiarly suited, in mass for exteriors and in detail for mystery and symbolism, to the design of the Masonic temple today. It might well be more extensively used.



Details, Lodge Room, Elks' Club, Elmhurst, N. Y.  
The Ballinger Co., Architects



# The Planning of Fraternal Buildings

By HERBERT M. GREENE  
*Of the Herbert M. Greene Company, Dallas*

IT is probable that no class of semi-public structures presents more varied or interesting problems than are found in the designing of fraternal buildings. The difficulty of floor plan arrangement with, as is usually required, an imposing and distinguished exterior design, of necessity requires a reasonably thorough knowledge of the functional purposes for which the building is erected. The requirements of moderate to large sized structures of this character include to a greater or lesser extent those of a club, hotel and theater combined. Add to this other features generally demanded by a large and enthusiastic building committee, and the problem resolves itself into one of more than ordinary intricacy as well as of interest to the architect.

Fraternal buildings, for obvious reasons, occupy a peculiar place among the public and semi-public structures of a town or city. Within their walls are inculcated, by symbol or drama, lessons of patriotism, philosophy and religion, the Fatherhood of God and the Brotherhood of Man. It is important, therefore, that more than ordinary thought be given to the design; both exterior and interior, of this type of building. With the exception of mosques for the Mystic Shrine, which often and appropriately follow the motifs and details of the Saracenic style, fraternal buildings are generally designed in the Classical or the Gothic styles, or modifications thereof. While local conditions will sometimes dictate the style of the building, in a majority of cases the architect is unhampered and has an opportunity that will bode for good or evil, depending on the character of the design and its approval by the organization's membership, an opportunity presenting possibilities.

By reason of the multiplicity of degrees within membership of a fraternal order, the varying manner of their presentation in the different jurisdictions, and often by reason of the elaborate ceremonies that are to be accommodated, the information in this article will deal mainly with the fundamental requirements of Masonic buildings, as these, with necessary adjustments, can be arranged to meet the requirements of other fraternal orders. In this type of building, the lodge or degree room with the necessary anterooms is of primary importance. Due to varying requirements as to seating capacity and the character of the degrees, no very definite room sizes can be recommended. For a moderate sized lodge room the length should be considerably more than the width in order to allow ample seating capacity along the side walls, the ceiling height being not less than half the width. A lodge room of about 36 by 60 feet will seat about 70 in one row of chairs along the side walls and 130 in two rows, ample room being reserved for the officers' platforms and for floor work in the center area. This sized room should

have a ceiling height of not less than 18 feet and slightly more if possible. A careful study of the architectural treatment of lodge rooms should be made before the preliminary sketches have been completed in order to arrive at a satisfactory solution of the design as well as of the room's size. No lodge room should have a much greater length than 75 feet between platforms from which speaking is done, since the untrained voice will rarely carry more than this distance. Where large seating accommodations are required, galleries over the rear or along the sides of the lodge room are necessary. The problem of sight lines must be carefully worked out so that the floor space where the degrees are conferred is visible from every gallery seat. This is important.

Small stages are sometimes incorporated, on which are presented portions of the blue lodge, chapter and commandery work, if the building is to be for the use of Masons. The depths of these stages and the scenery required vary in different localities as well as in different jurisdictions. In the southern as well as in portions of the northern jurisdiction of the Scottish Rite, large stages, varying to a considerable extent in requirements from those of the theater stage, are required. These are usually placed at a height of 18 inches, and generally have three steps leading to the main floors, as the degree work is generally presented on both floors and stages. The stage of a lodge room should be not less than 30 feet in depth in order to accommodate at least 100 leg and back drops. These are counterweighted, and are hung in regular sequence so that two or three leg drops with a back drop will complete the stage setting. The drops have wooden battens at top and bottom, are operated from the stage floor or a fly gallery, and are hung at about 3½-inch centers. A gridiron with a height of 3 or 4 feet for original installation and possible future changes is necessary.

The lighting of such a stage, whether large or small, should be by overhead borders, disappearing footlights to be used only when absolutely necessary. The stage floor should be kept as free as possible of all electric apparatus except plugs for spotlights and other forms of special lighting. A pre-selective switchboard with dimmers is advisable for all large stages, and all switchboards should be of the safety type arranged to control all lighting in the degree room as well as on the stage.

Where the shrine is accommodated in Scottish Rite or other degree rooms, the problem of securing abundant floor area along with large seating capacity is sometimes perplexing. In the Scottish Rite Cathedral, San Antonio (see Plate 34), the writer solved the problem created by the rather generous requirements by constructing an independent sloping floor 50 by 60 feet directly in front of the regular stage.



Scottish Rite Cathedral, Joplin, Mo.  
Hubbell & Greene, Architects



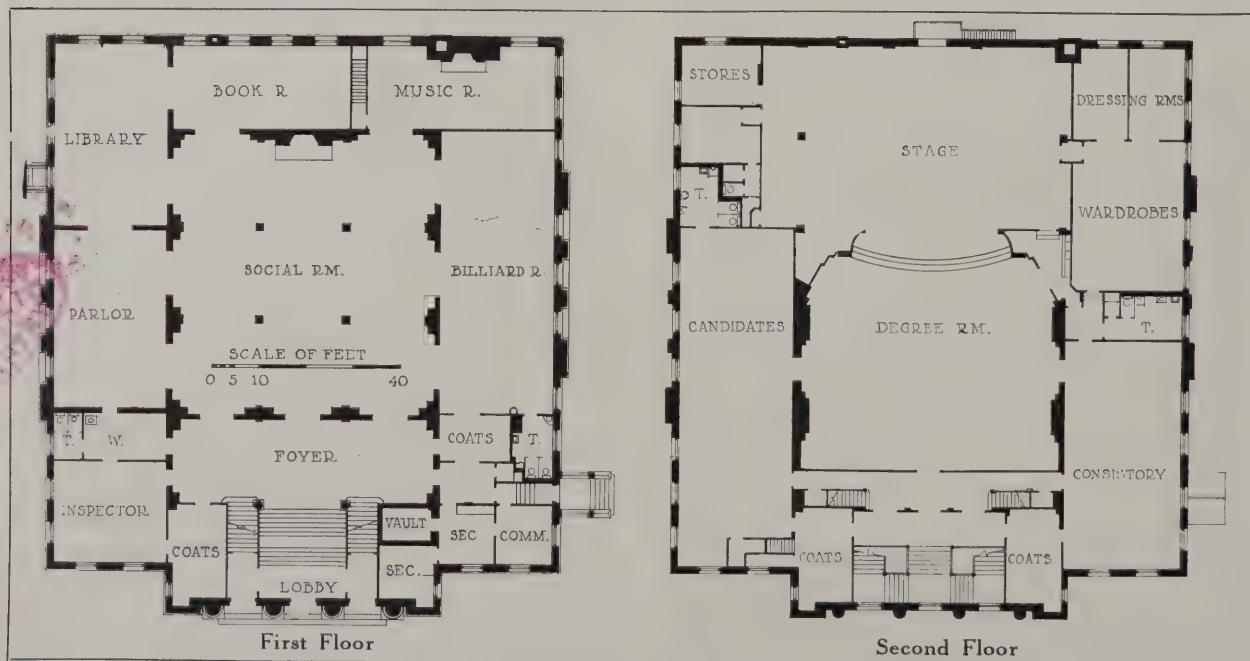
Ainiad Temple, East St. Louis, Ill.  
William B. Ittner, Architect

This floor, hinged on the side farthest from the stage, is arranged so that the front end can be raised to the stage level, not only doubling the stage size, but giving better opportunity on the raised portion for the presentation of the shrine work.

The ideal lodge or degree room should have no exterior windows, so that ritualistic secrecy may be preserved. Rooms of this character should be thoroughly ventilated by means of intake and exhaust fans, the capacity being proportioned to the largest number of people that the room can possibly accommodate. There cannot be too strongly stressed the importance of perfect ventilation, as in some jurisdictions large classes of candidates as well as the workers and members may be in attendance for as many as ten hours a day and for four or five days.

Sometimes in moderate, and generally in large sized lodge and degree rooms, the requirements call for the installation of a pipe organ. Its proper loca-

tion and incorporation in the interior design will not be as difficult as arranging to accommodate a mixed choir or chorus, whose singing can be heard in the degree room but who cannot hear or see the degree work. Shutters of the same character as are used in the swell box of an organ can be installed in the opening between the choir and degree room, the control of the shutters being placed where convenient. While an organ in a lodge room is generally operated by one of the members, this is not always so with reference to Scottish Rite work, in which event it will be advisable to install an electric pneumatic organ with duplicate consoles, one in the degree room, the other in the choir room. When vocal music is furnished by non-members it is necessary that a console be located in their choir room for proper results. If the organ chamber is distant from the choir room, it is also very desirable that one set of organ pipes be placed in the choir room so that

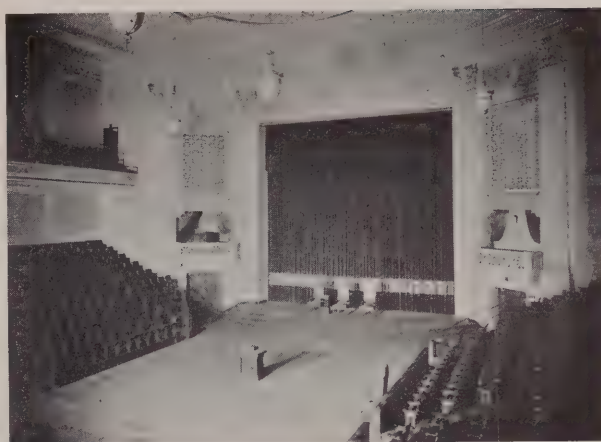


Plans, Scottish Rite Cathedral, Joplin, Mo.  
Hubbell & Greene, Architects





Lodge Room, Elks' Club, Oakland, Calif.  
William Knowles, Architect



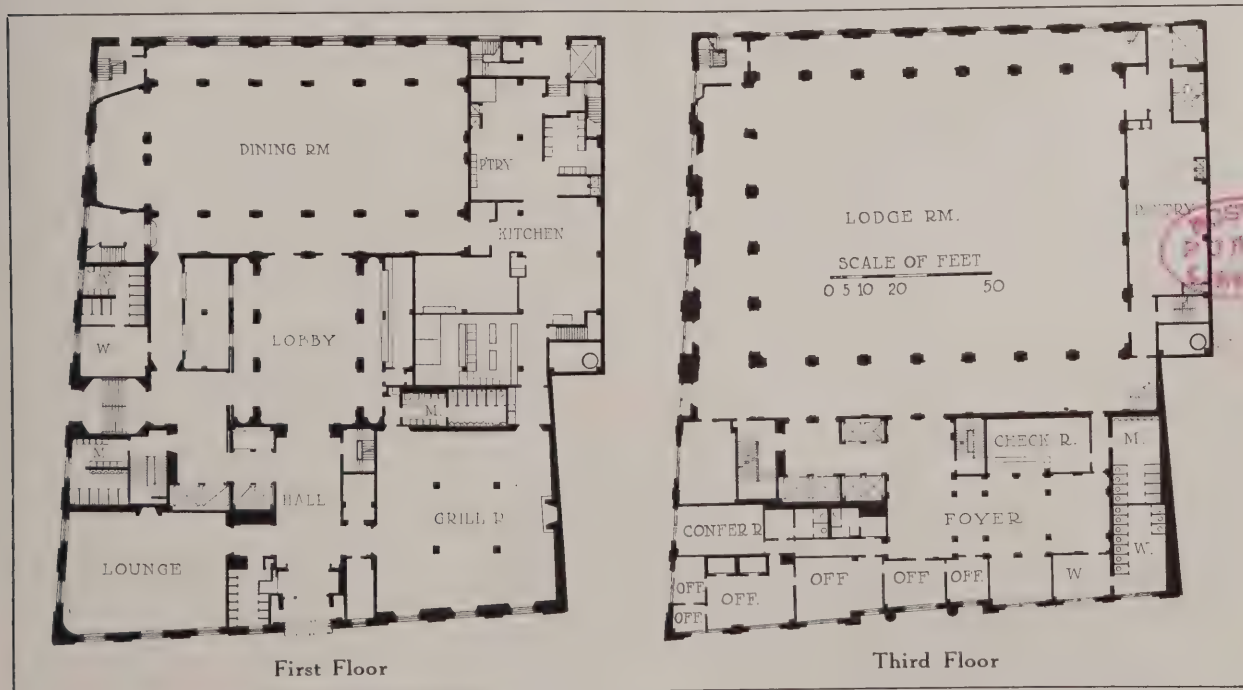
Auditorium, Temple of Freemasonry, Madison, Wis.  
James R. & Edward J. Law, Architects

the vocal as well as the organ music be synchronized.

As has already been said, no definite, hard and fast rules can be laid down regarding either large or small lodge or degree rooms. The character of the work to be performed and the manner of its presentation, with varying local conditions, should in all cases govern. Degree rooms having stages and seating up to 100 can be placed on second floors if ample stairways and fire escapes are provided, reserving the first floors for social purposes. Degree rooms seating more than that number should be located on main or ground floors for the sake of convenience.

Too much care cannot be taken in arranging the necessary anterooms in connection with lodge rooms. These should be generous in size and be properly located according to their uses. Of primary importance is the room or corridor that is guarded and through which all members and candidates pass into the lodge room. In large lodge rooms it is advisable

to provide means of exit other than the entrance door through the guarded room. These exit doors should be equipped with "anti-panic" hardware on the lodge room side only. It is usual and generally necessary to provide a room in which candidates are prepared for their initiation. This is best located adjacent to the lodge room, with connecting doors to the guarded room only. Lodges conferring degrees on classes of candidates should not only have classrooms ample in size but these should be located so the candidates are at all times segregated from the members. Much degree work requires illustration, and it is generally required that a lantern room be provided with a small opening into the lodge room through which pictures are projected on a large canvas screen. This room is usually placed on a mezzanine floor over the candidates' preparation room. In the larger type of degree rooms a standard motion picture booth is always advisable.



Plans, Brooklyn Lodge No. 22, B. P. O. Elks  
McKim, Mead & White, Architects

Lodges semi-military in character, in addition to other special rooms, require locker rooms adjacent to the lodge rooms. These rooms should be of ample sizes, not only to accommodate the necessary lockers, which are usually placed in tiers, but also to give ample spaces for dressing. In connection with these rooms there should be arranged well equipped toilet and shower rooms, which will be needed.

The necessity of having ample toilet room facilities cannot be too strongly stressed. Where degrees are conferred on large classes of candidates and the work is continuous for hours with but few brief intermissions, the number of fixtures required is abnormal. A careful analysis of all conditions should be made in order that ample accommodations be provided. When this has been done, add at least 25 per cent to the estimate and it will be found none too generous. In moderate sized or smaller lodge rooms, it is advisable that toilet rooms be so located that the members do not have to pass the outside door of the guarded room. Where more than one lodge room is located on a floor, a joint toilet room serving all lodges on that floor will be found economical. Taking care of coats and hats will generally be found a perplexing problem. As attendance of membership varies, no set rule can be given. To provide for the greatest number that might possibly attend will require an abnormally large floor space. The writer's method is to ascertain the average attendance, and then to provide hook spaces for 50 per cent in addition. Movable hat racks can sometimes be used.

The problems of circulation between various rooms and the sizes of lobbies, foyers and corridors should be carefully determined in order that congestion be avoided. In all buildings where lodge rooms are above the ground floor, and especially where considerable numbers are accommodated, enclosed fire stairways of ample capacity should be provided. They should be located where they are easily accessible and as far from the regular stairways and elevators as possible. Building laws govern the matter.

Ever since their inception and organization, some of the fraternal orders have developed and stressed the social side to such a degree as to require rooms in addition to those required for strictly lodge purposes. It is only comparatively recently, however, that the Masonic order has felt the necessity of having more than possibly a banquet room, although some of the more pretentious buildings have incorporated other social rooms. The rapid increase in membership of the Eastern Star and a realization of the benefits to be secured through social intercourse require social rooms of various kinds for the members as well as their friends. Modern fraternal buildings, in addition to banquet rooms, usually contain libraries, billiard rooms, smoking and card rooms as well as women's parlors equipped with generous dressing rooms, and in some buildings bowling alleys have been installed for convenience.

Although their use is rather infrequent, banquet rooms should be as large as possible, since attendance

at banquets is often surprising. In Scottish Rite buildings, the banquet rooms must be large enough to accommodate at one yearly banquet a possible majority of the members, as attendance is obligatory. As banquet rooms are frequently used for dancing, they should have as few columns as possible. Accommodations for orchestras either on balconies or in alcoves is desirable. Much of the success of a banquet will be due to quick service, requiring generous passage space. Collapsible tables about 30 inches wide are usually found to be serviceable.

Too much attention cannot be given to the size of the kitchen. Differing radically from the usual hotel kitchen, where service is continuous, it should be considerably larger in order to allow for quick service. Hotel waiters serve from six to ten guests, while good banquet service does not allow for over four to each waiter, and in any event not over six. The cooked food is often prepared elsewhere, and on its arrival is placed in large warming ovens. Salads, desserts and uncooked food are prepared on the premises and placed on long tables in set-up rooms adjoining the kitchen, the tables accommodating one service of that particular food for each attendant at the banquet. This is necessary in order that each course be served promptly. In large kitchens, separate dishwashing rooms are necessary as well as ample refrigerating capacity. An experienced caterer should be consulted before planning the kitchen, in order that future trouble be avoided.

Excepting where it is particularly desired, libraries do not require large book capacity. In a moderate sized building, space for 1000 to 2000 volumes is generally sufficient. Ample space should, however, be provided for tables for magazines and newspapers, as these will be found very popular with any class of members. A game room containing billiard and pool tables will attract more than ordinary attention, and unless a generous number of tables is originally installed, additional tables will soon be necessary. A card room will be found popular in some fraternal buildings, although in others it will be considered unnecessary. Local conditions will determine the advisability of its being included in the plans. Although smoking is generally allowed in all social rooms, the requirements will sometimes call for a separate smoking or lounging room. A women's parlor is a necessity in almost all sizes and types of fraternal buildings. They are used by the women as waiting rooms or for various other purposes, and they are especially valuable when entertainments or banquets are held, where women are often guests.

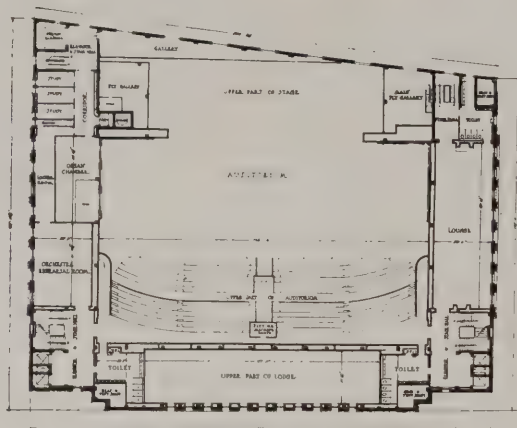
Possibly the most important of all service rooms, one that is vitally necessary, is the office of the secretary. It should be large enough to accommodate filing systems of various kinds and have a large fire-proof storage vault. In many fraternal buildings, a private office for the secretary should be provided, and in all cases counters separating the public spaces from the offices are a necessity. Careful attention to the requirements of the secretary is of importance.



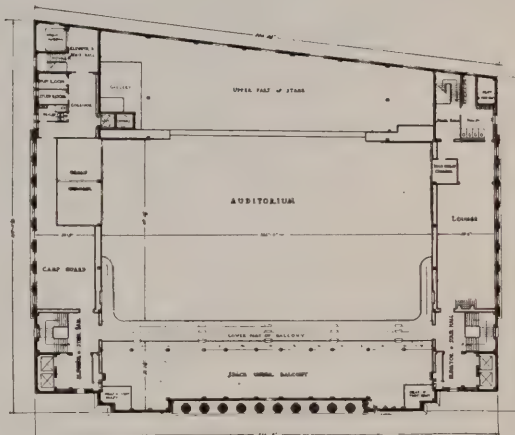


SCOTTISH RITE CATHEDRAL, ST. LOUIS  
WILLIAM B. ITTNER, ARCHITECT

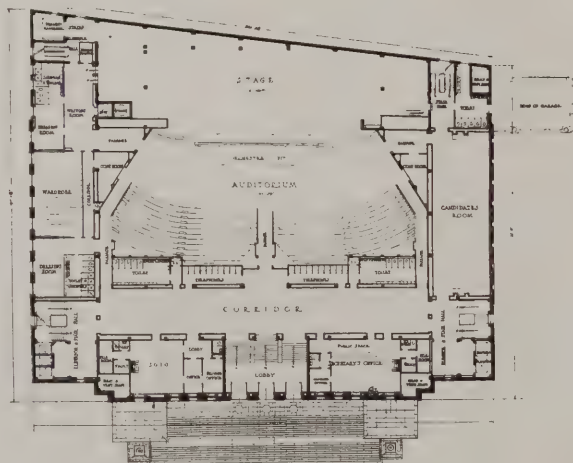
*Plans on Back*



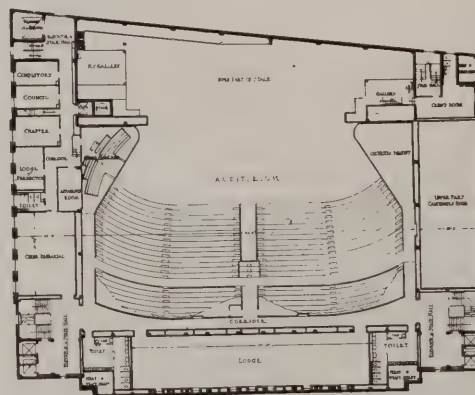
THIRD FLOOR



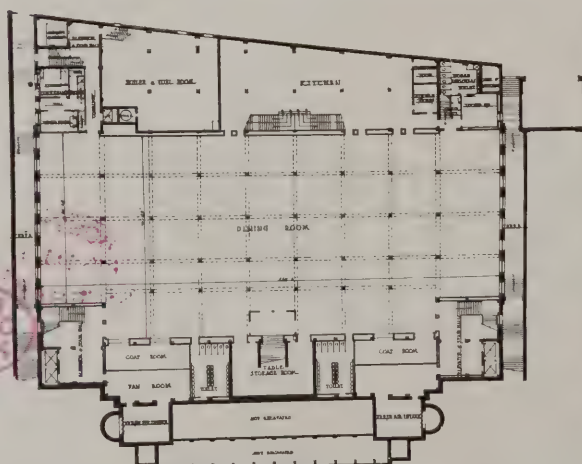
FOURTH FLOOR



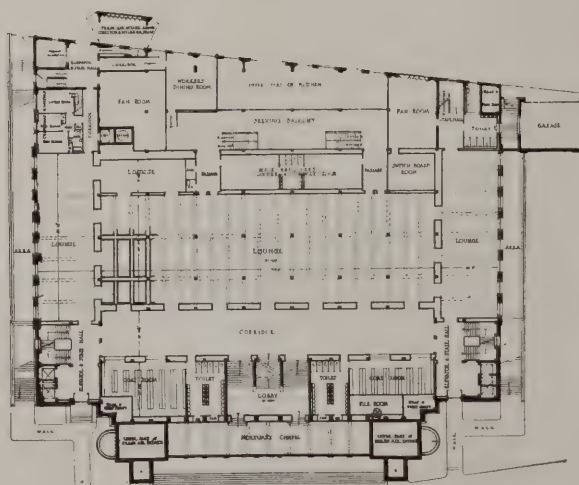
MAIN FLOOR



SECOND FLOOR



DINING ROOM FLOOR



LOUNGE FLOOR

PLANS, SCOTTISH RITE CATHEDRAL, ST. LOUIS

WILLIAM B. ITTNER, ARCHITECT

BOSTON  
PUBLIC  
LIBRARY



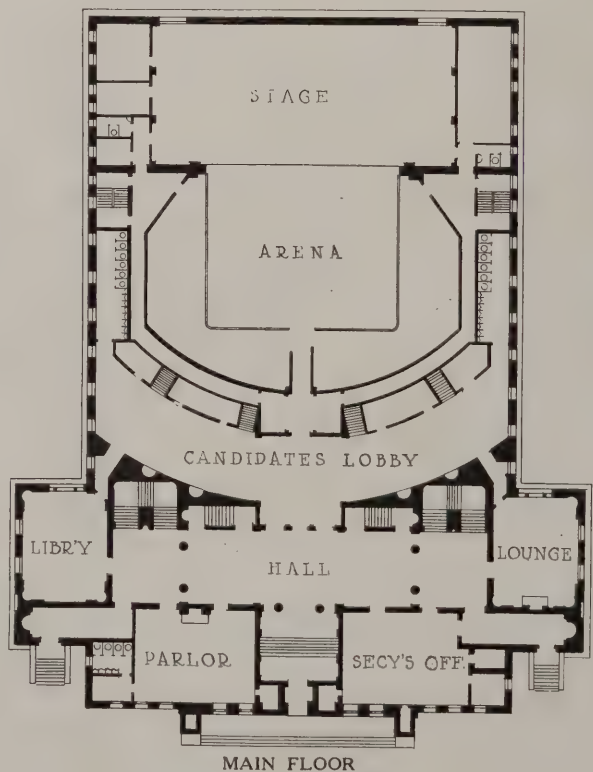
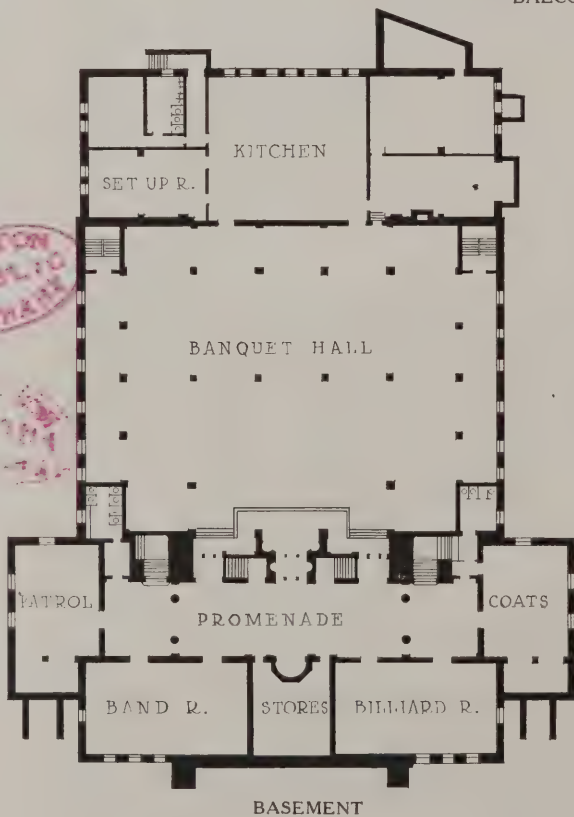
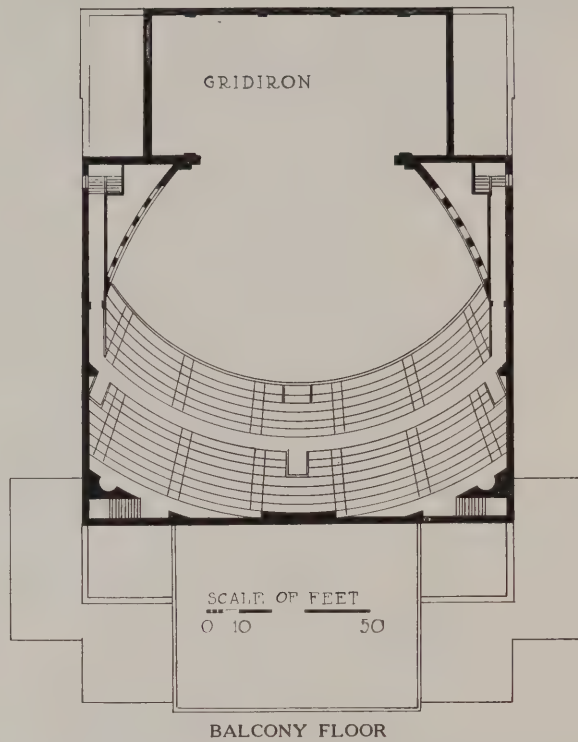


Plans on Back

SCOTTISH RITE CATHEDRAL, SAN ANTONIO  
HERBERT M. GREENE COMPANY, ARCHITECTS



Photo. Tebbbs & Knell, Inc.



PLANS, SCOTTISH RITE CATHEDRAL, SAN ANTONIO

HERBERT M. GREENE COMPANY, ARCHITECTS

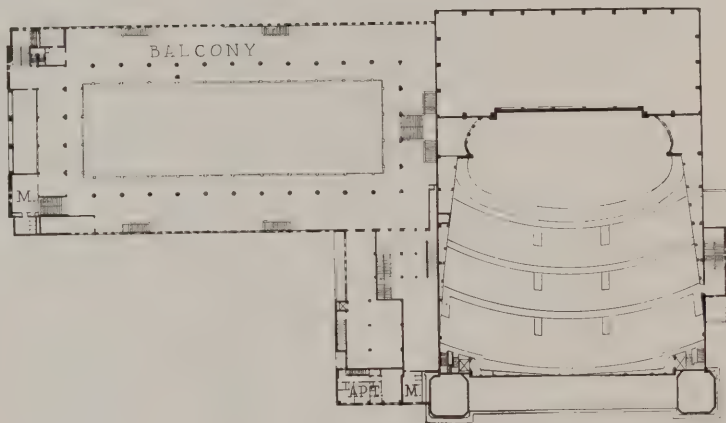




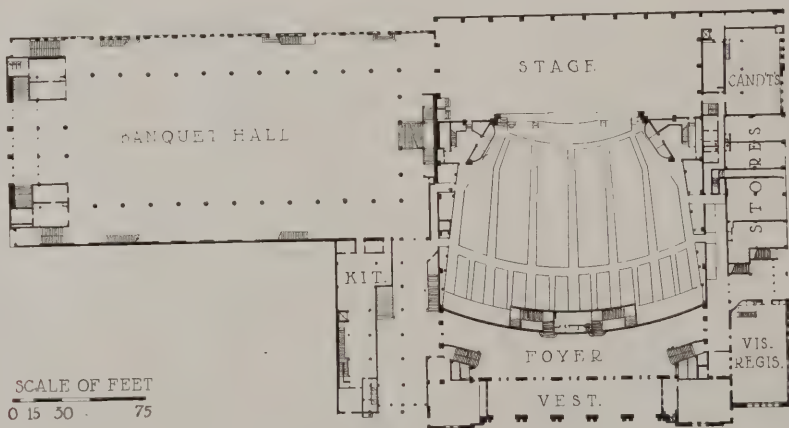
Plans on Back

AL MALAIKAH TEMPLE, LOS ANGELES  
JOHN C. AUSTIN, ARCHITECT

Photos, The Mott Studios



SECOND FLOOR



SCALE OF FEET  
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MAIN FLOOR

PLANS, AL MALAIKAH TEMPLE, LOS ANGELES

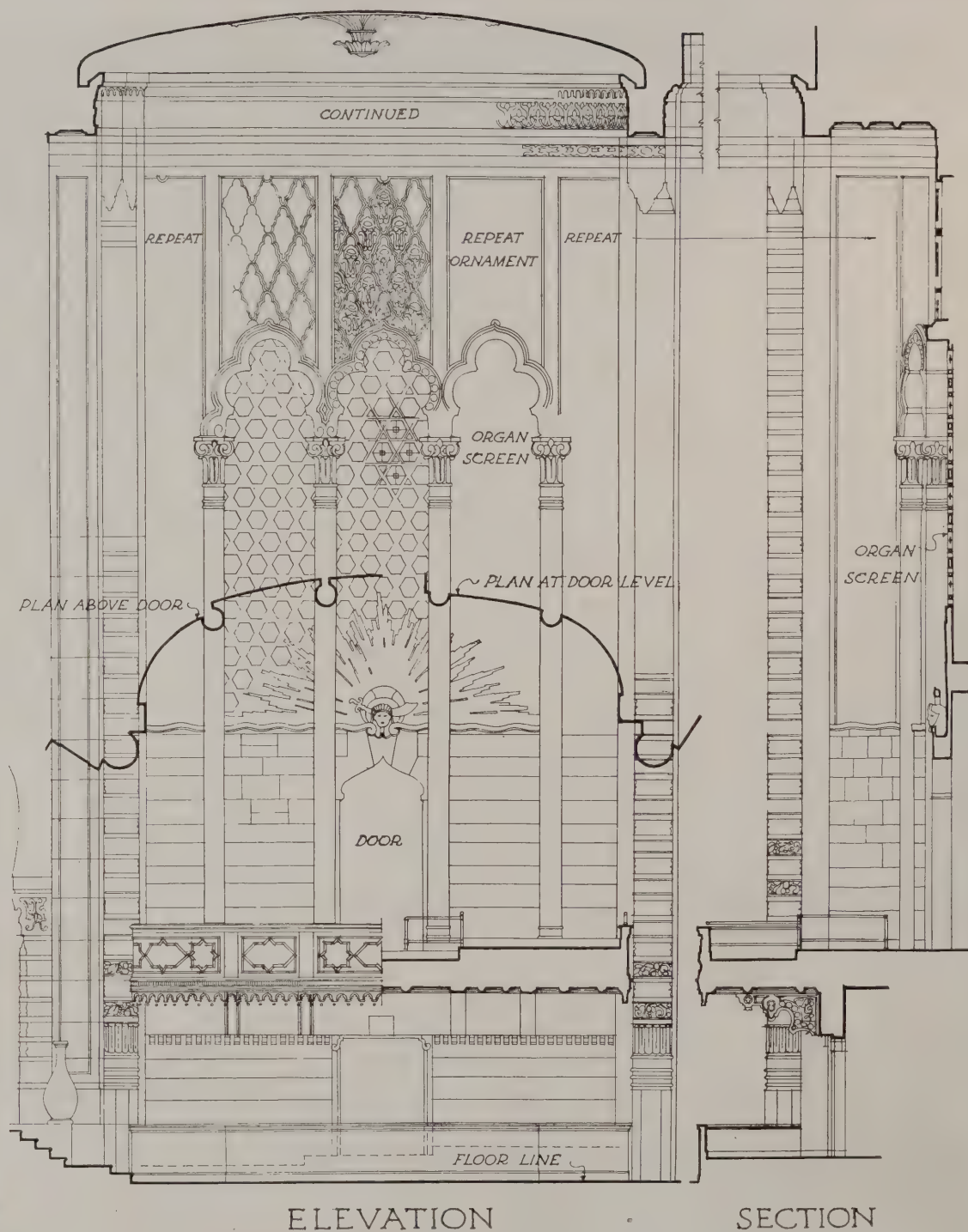
JOHN C. AUSTIN, ARCHITECT





AUDITORIUM, AL MALAIKAH TEMPLE, LOS ANGELES  
JOHN C. AUSTIN, ARCHITECT

*Measured Detail on Back*



ELEVATION

SECTION

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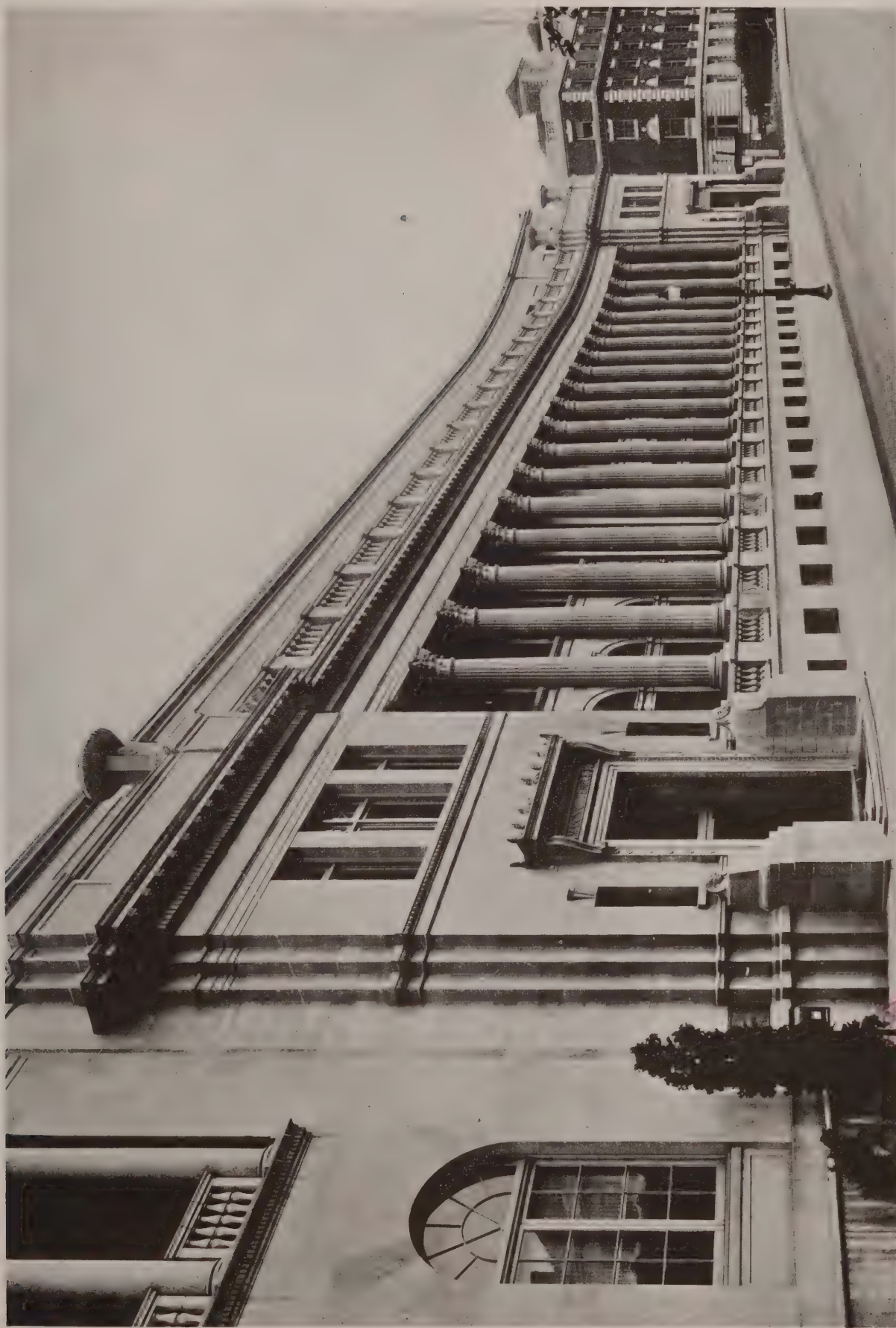
DETAIL OF INTERIOR  
AL MALAIKAH TEMPLE, LOS ANGELES  
JOHN C. AUSTIN, ARCHT. LOS ANGELES, CAL.

SEPT  
1926

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The ARCHITECTURAL FORUM DETAILS

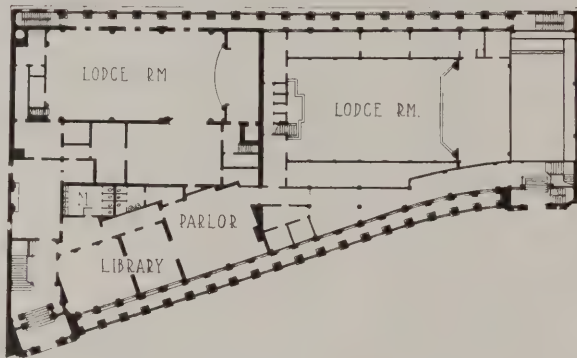




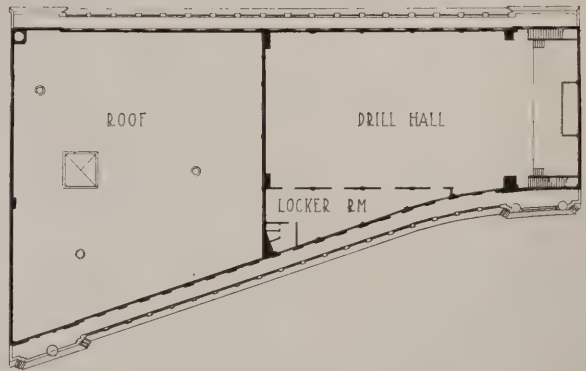
Plans on Back

MASONIC TEMPLE, SPOKANE.  
RIGG & VAN TYNE, ARCHITECTS

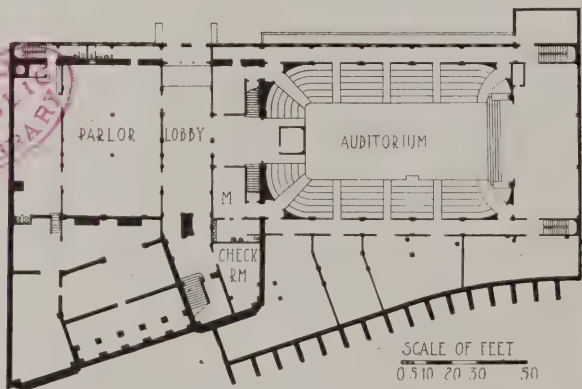




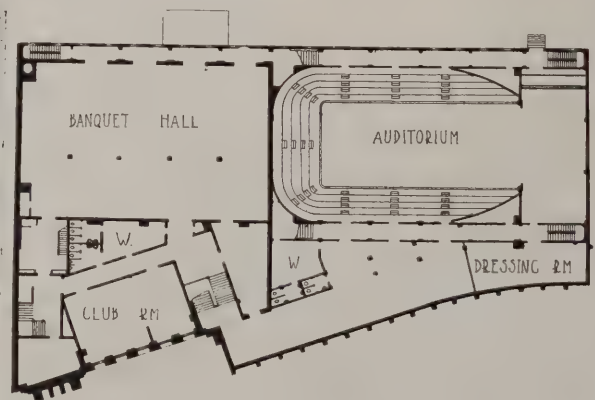
FIRST FLOOR



THIRD FLOOR



SUB-BASEMENT



BASEMENT

PLANS, MASONIC TEMPLE, SPOKANE

RIGG & VAN TYNE, ARCHITECTS



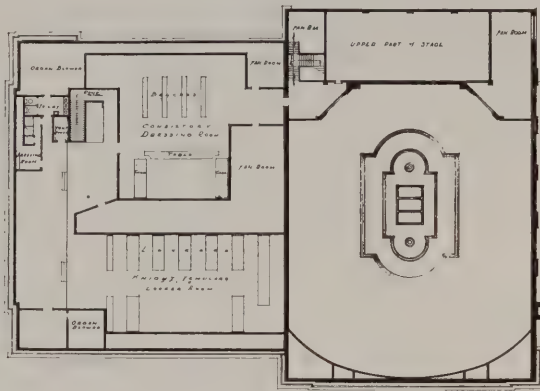


*Photo, Diemer*

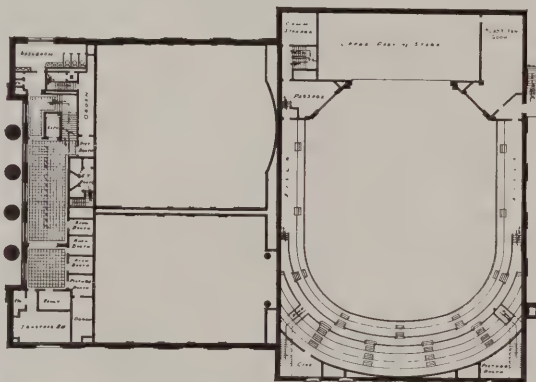
TEMPLE OF FREEMASONRY, MADISON, WIS.  
JAMES R. & EDWARD J. LAW, ARCHITECTS

*Plans on Back*

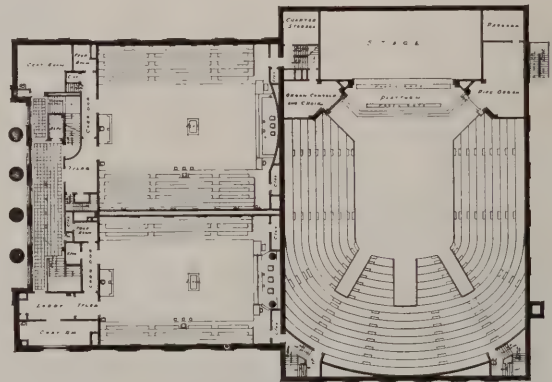




ATTIC FLOOR



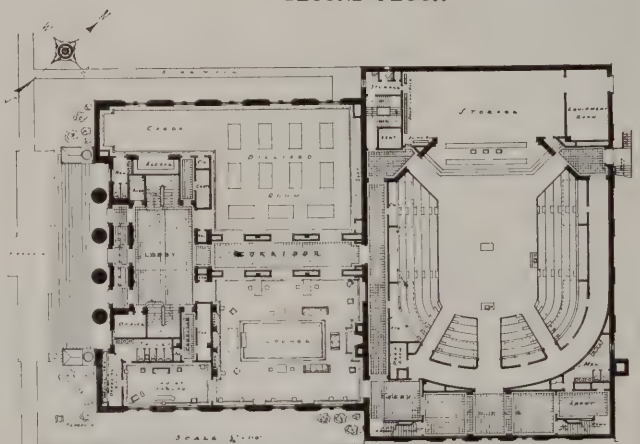
MEZZANINE



SECOND FLOOR



GROUND FLOOR



FIRST FLOOR

PLANS, TEMPLE OF FREEMASONRY, MADISON, WIS.

JAMES R. AND EDWARD J. LAW, ARCHITECTS

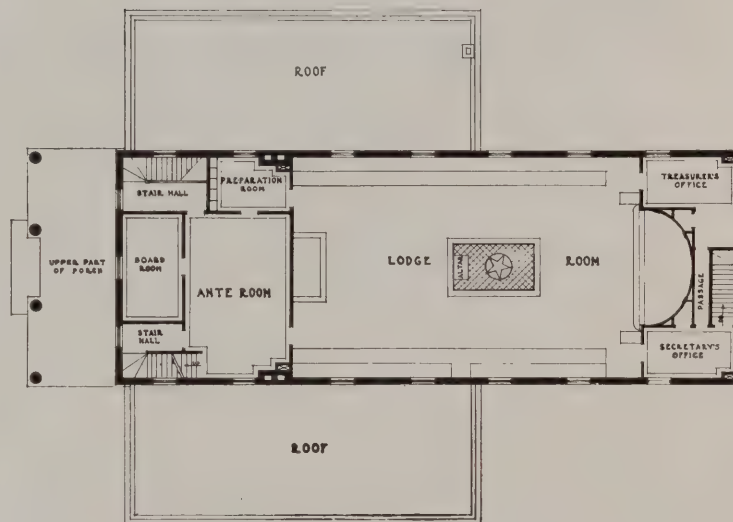




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MASONIC TEMPLE, GREENWICH, CONN.  
GEORGE B. POST & SONS, ARCHITECTS

*Photos, Dix Duryea*



SECOND FLOOR



FIRST FLOOR

PLANS, MASONIC TEMPLE, GREENWICH, CONN.

GEORGE B. POST & SONS, ARCHITECTS



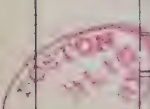


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FRONT ELEVATION, MASONIC TEMPLE, GREENWICH, CONN.  
GEORGE B. POST & SONS, ARCHITECTS

GEO. B. POST & SONS, ARCHT'S  
NEW YORK CITY.

GEO. B. POST & SONS, ARCHT'S  
NEW YORK CITY.



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# The Social or Athletic Club; Its Exterior Design

By DWIGHT JAMES BAUM

EVERY intelligent architect recognizes in the club building of any type a distinct opportunity, quite apart from the purely architectural considerations involved. He sees a building which is to be a permanent part of its community and an asset to that community if it is designed with studious consideration of all its special requirements. He sees, too, a building in the benefits of which the citizen participates, a building used and especially noticed by the community, an important structure.

Broadly speaking, the architect wants to design a building, whether for a social club or an athletic club, which will be both dignified and inviting and at the same time in keeping with its environment. The club house designed in good taste should not be more conspicuous by reason of its insistent difference from other buildings than is the really well dressed man conspicuous because of his extreme clothes. I have often thought of Carlyle's remark about the splendidly dignified Chelsea Hospital buildings on the Thames Embankment, designed by Sir Christopher Wren. Carlyle did not know that Wren was the architect, but said that the buildings looked "as though they had been designed by a gentleman." This should be true of any club building, and although it is not a thought that can be reduced to an academic architectural formula, it is one of the most important to bear in mind in designing club buildings. It simply means that there should be nothing blatant or ostentatious about a club building; it is simply another and more picturesque way of saying that the design of a club building is an exercise in good taste, which, perhaps, is more important as a single factor making for the right kind of design than any other one factor that could be named. Among other things it assumes good architecture, and goes further by assuming, also, good architecture which is also appropriate. Appropriateness is one of the first connotations of good taste in a building of any kind.

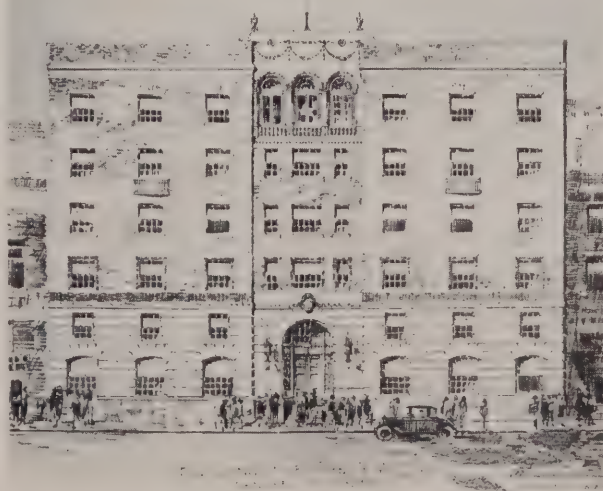
With the privilege extended me by the Editor to include with the illustrations of this special number of THE ARCHITECTURAL FORUM some renderings of two club buildings from my office, designed for Florida, I am able to dwell upon what I believe to be another very important fundamental of club de-

sign. It seems particularly futile to build a club which will accomplish nothing more, architecturally, than resemblance to a hotel or an office building.

Where there are lofty dining rooms, blank-walled squash or tennis courts, a swimming pool or a gymnasium, some frank suggestion of the existence of these should appear in the exterior design. In this respect the Racquet Club in Boston, designed by Parker, Thomas & Rice, and the Racquet and Tennis Club in New York by McKim, Mead & White, are unusually fine examples of honest architectural treatment of extensive exterior wall areas without fenestration, and to the purely architectural eye there is an abiding sense of satisfaction in the rear elevation of the New York Public Library on Bryant Park, where the existence of great iron-galleried stackrooms within is fully expressed by the tall light openings separated by the plain marble piers without.

In both the Tampa Athletic Club and the Y. M. C. A. building for Orlando, Fla. I have tried to give as much exterior expression of interior features as possible, and at the same time to impart to the buildings a locally suitable stylistic feeling. The Orlando Y. M. C. A. is frankly in the informal kind of Spanish architecture that has been so successfully developed in Florida. There is an irregularity in profile and in set-backs, with considerable diversity in roof, window and balcony treatment, and the patio enclosed by the main masses of the building is expressed on the street elevation by the wood-grilled arched openings of a loggia that separates the patio from the street. By day these openings will afford inviting glimpses of the patio within, and at night they will add interest to the building by allowing the artificial moonlight effects of the patio to be seen through the grilles. Expression, too, is given the

principal rooms by the handling of wall spaces and fenestration, so that every elevation is essentially a piece of articulated design. In the Tampa Athletic Club the first *projet* was revised toward character more Renaissance Italian than Classic Italian, and full importance is given to the water approach, with terrace steps leading up to a formal entrance portico. In this elevation, again, the fullest possible exterior expression is given to the interior divisions of the plan, and the



W. E. & A. A. Fisher, Architects

THE YOUNG MEN'S CHRISTIAN ASSOCIATION  
BUILDING, FOR  
ORLANDO, FLORIDA.



DWIGHT JAMES DAVIS, ARCHITECT  
NEW YORK CITY  
IN ASSOCIATION WITH  
THE ARCHITECTURAL DRYDEN-YINGCA

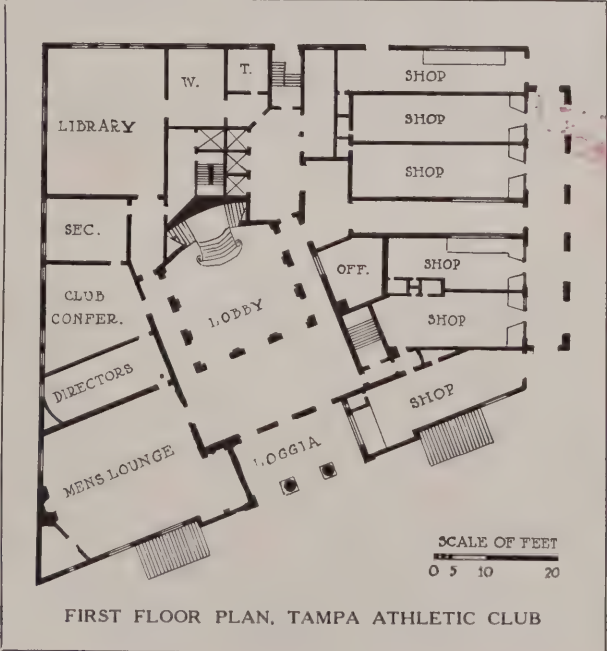




WATER FRONT ELEVATION, TAMPA ATHLETIC CLUB  
DWIGHT JAMES BAUM & B. C. BONFOEY, ASSOCIATED ARCHITECTS



FIRST FLOOR PLAN, Y. M. C. A., ORLANDO



FIRST FLOOR PLAN, TAMPA ATHLETIC CLUB



Missouri Athletic Association Building, St. Louis  
William B. Ittner & G. F. A. Brueggeman, Associated Architects

utmost advantage is taken of the composition of the building's mass toward its effectiveness as a whole.

In the Penn Athletic Club (Plate 46), Zantzing, Borie & Medary have utilized the set-back principle and have produced a highly effective design, so impressive in mass that it requires relatively little detail,—a peculiarity, by the way, of this new "mass design." In past years detail too often preoccupied the architectural mind at the expense of mass, and whole facades were often made up of detail with very little thought of the larger relationships of mass. William B. Ittner's athletic association building is an interesting example of designing in brick,

resulting in a structure which is distinctive and at the same time extremely dignified. A most unusual club design is seen in the Buffalo Athletic Club (Plate 44) where, again, mass predominates in the great twin towers that rise impressively above a lower rectangular substructure. The detail, here again subordinated, is in a very restrained Renaissance Italian. One of the most interesting of the club buildings illustrated here (page 179) is Smith, Hinchman & Grylls' Detroit Players' Club. The architects have designed in an unusually free version of Italian, and have departed interestingly from most of the familiar conventions of that type. The projecting rafter ends, with dramatic masks, give a note of distinction to the front elevation, and while the building is comparatively small, its technique would seem to be admirably applicable to a structure much larger.

The Y. M. C. A. or Y. W. C. A. building comes, of course, fairly within the category of the social or athletic club, though it should properly have a certain difference in feeling that must be discerned by the architect's sensibilities.

This difference is best

illustrated, perhaps, in the Y. W. C. A. building for Columbus, O., which deservedly won in competition. Here the architects, Miller & Reeves, saw their problem as the designing of a building which would be distinguished and impressive in appearance, yet which would successfully suggest a great, welcoming house, a club that would be also a home. This affords an instance of exercise of real architectural thought and feeling, and of real architectural good taste. It is a notable expression of sense of fitness.

While planning for possible future enlargement is an essential of the plan itself, which is discussed elsewhere in this issue of *THE FORUM*, it is also an



inseparable part of the disposition of the exterior design as well, and when such future expansion is anticipated by the club, the most careful provision should be made to provide for a later addition which will not look like an addition, but like a perfectly coördinated part of a unified design.

The business of building a club house of the social or athletic type is almost invariably in the hands of a committee, and I believe that most architects will agree that greater efficiency than is usually had in reaching conclusions would not only save all the parties concerned a great deal of time and money, but would result in a better building, and more value for the total appropriation. The committee should, by all means, draw up a careful program or specification covering all the practical requirements and needs of the new club, and having done this, should call in an architect, if only in a consulting capacity, to advise on the architectural part of the project. The average committee, quite naturally, is not likely to be versed in architectural matters or architectural taste, no matter how well the members may be acquainted with the practical needs of the proposed club. An architect sitting with the committee, whether or not he is invited or eligible for selection as the ultimate designer, cannot but be of the greatest assistance to the successful furthering of the whole project. He may be invited at an agreed fee solely as a consultant, and as designing and building constitute his business, he will invariably add much to the success of the deliberations of the bankers, lawyers, business men and others forming the committee, and enable them to arrive with a minimum of delay and groping at a definite, workable scheme for the new club building, with an estimated price that will give the club a

definite figure to work toward in underwriting its cost. This, of course, is a highly important detail.

In connection with an important athletic club on which I was recently consulted, I accomplished excellent results by taking the committee on a "personally conducted tour" to several cities to thoroughly inspect a number of important athletic club buildings. The members of the committee were thus enabled to see at first hand all the most important examples of the use of design and equipment, and to form, on a basis of actual comparison, a really well informed opinion of the work of different architects. The points I wish to make are that there is



Proposed Y. W. C. A. Building, Columbus, O.  
Miller & Reeves, Architects

much to be gained in every phase of a club building project by the better information of the committee in charge, and that the architect renders a service to the extent that he can proffer such information.

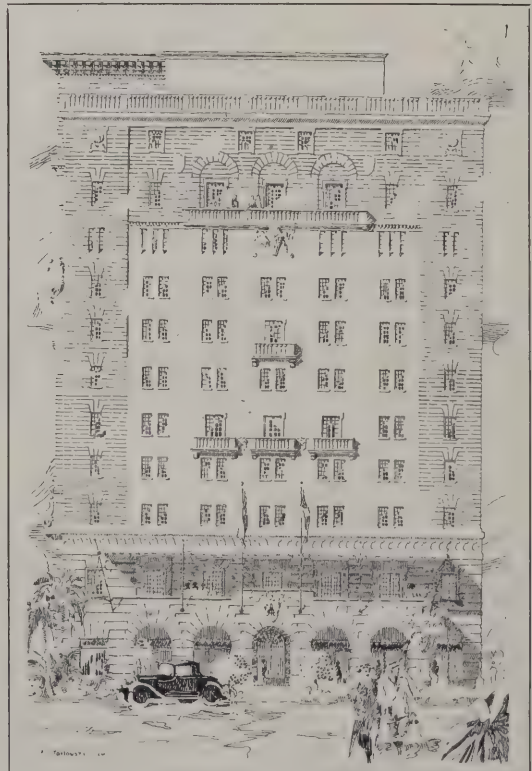
Obviously, it is not possible to generalize very extensively about the exterior design of club buildings, because each will suggest some special treatment appropriate either to the nature of the club or its environment, or sometimes to both. One generality, however, suggests itself and has to do with general mass. The zoning law of a few years ago in New York, requiring recessions or set-backs of the building's mass in certain ratios to its plan area, street frontage and height, resulted in a revolution in design. Architects found themselves working in three dimensions,—in masses instead of in elevations. Buildings, instead of standardizing themselves in relationship of base, cornice and intervening exterior wall area, changed their shapes as they rose, and developed profiles of marked individuality and variety. One such building that houses several fraternity clubs in New York is the Allerton House at Madison Avenue and 38th Street, and here some of the offset has been utilized for a roof garden. The general idea of the set-back profile, whether or not it happens to be decreed by local building ordinances, affords a wealth of suggestion for the design of club buildings. If the dining room, for instance, is placed toward the top of the building, it can be provided with open-air dining terraces opening from it

through tall doors and affording an attractive sense of light and air. There are instances, as in the new addition to the Harvard Club in New York, where the swimming pool is at the top of the building, and in such a case it would be a striking innovation to allow a part of the pool to occupy a terrace open to the sky, with provision for shade by awnings.

The zoning law, certainly, opened by chance a door to new and more effective kinds of design than old academic formulæ dreamed of. Before the law was decreed in New York, Mr. Corbett, of Helmle & Corbett, made a purely æsthetic use of it in the upper stories of the Bush Building on 42nd Street. When he showed a design in which the corners of several of the topmost stories were beveled back obliquely, effecting one of the finest architectural profiles then proposed for New York, there was heavy opposition on the score of lost floor space and possible "freakishness." The architect countered with the argument that this then unusual treatment of the top of the building would have, through its sheer pictorial aspect, an advertising value far outweighing that of the loss of floor area involved. The architect won, and he gave New York one of its finest profiles, and the Bush Building a unique quality of architectural distinction. All of which may seem in the nature of a digression,—but which has, nevertheless, a very real bearing on the exterior design of modern buildings, and especially those designed for housing activities of social or athletic clubs.



The Essex Club, Newark  
Guilbert & Betelle, Architects



End Elevation, Tampa Athletic Club  
Dwight James Baum & B. C. Bonfoey, Architects



# Planning the City Social or Athletic Club

By CHARLES G. LORING

DUNSANY in one of his "Tales of Wonder" describes a club of dethroned gods and exiled kings and heirs to fallen dynasties. "Lifting right above those grotesque houses of that obscure quarter and built in that Greek style that we call Georgian, there was something Olympian about it. As I stood gazing at the magnificent upper windows draped with great curtains, indistinct in the evening, on which huge shadows flickered . . ." On Fifth Avenue there are such clubs for social demi-gods. A few blocks east smaller and far less conspicuous haunts suggest Stevenson's "Suicide Club,"—and in San Francisco or Boston, Mr. Pickwick would have found himself quite at home in some of the mellow rendezvous hidden away among the wharves and warehouses of those maritime towns.

The fashions in City Clubs change from decade to decade, as do fashions in architecture, and they are free to change in this sphere, for the design is bound very little by either conventions or building restrictions. There is no definite precedent, as with ecclesiastical composition, nor are there rigid regulations as is the case with schoolhouses. Less than a generation ago, there were two well established club house types. The metropolitan club house, which echoed some of the famous structures of London, expressed solemn luxury and Cyclopean scale sufficient to satiate the superiority complex of its wealthiest member. The immense rooms and beautiful decorations formed a fit setting for the crusty clubman

described in so many novels. The University Club, in New York, by McKim, Mead & White is a striking example of this type. The other extreme was expressed in the athletic club, which was more gymnasium than home, and which paid little attention to its library or cuisine, but instead supported football teams, prize fights, track meets, and similar activities.

The desire for "something different," so typical of the flow of American life, has naturally modified the new designs, but the Eighteenth Amendment and the automobile have effected a still more fundamental change in club house design. The departure of the open bar and the vintage wines closed many private taverns and spurred the managers of many clubs to offering new attractions. Billiard rooms, which in the old days were buried where the sun never penetrated, are now brought nearer to the center of life, as are also the card rooms, in order that a friendly air of activity may be apparent to the casual member who may drop in. In the old days before the war it was only necessary to call a waiter and tell him to "take the orders" to join a circle of talkers, but now the solitary stroller finds companions around the card tables or perched on the settees in the billiard room. The athletic adjuncts have become far more important features, and the demand for squash courts, bowling alleys and swimming pools, in what would formerly have been considered strictly social clubs, has greatly increased. The athletic club has also broadened its scope to increase its attractions



Harvard Club, Boston  
Parker, Thomas & Rice, Architects





Lounge, Penn Athletic Club, Philadelphia  
Zantzinger, Borie & Medary, Architects

for the younger members who may not be able to afford the dues of more than one club. For with the prohibition of the sale of liquors increased general revenue is needed. In the new buildings featuring athletics, the reading rooms and informal gathering places receive more emphasis than formerly. In fact the general trend of city club house design is away from the acute differentiation between

the social and the athletic club, and toward an increased number of bedrooms in the larger centers. There are always men who prefer to live at clubs.

The growth of out of town membership, the expansion of city limits and the increasing number of automobiles no longer permit the metropolitan club house to be located within easy walking distance for the majority of members. When a new building is under discussion, the first problem for the committee is to find a suitable lot, preferably near a subway station and on a main highway where there is ample parking space, and near one or more public garages. After the site, the number of bedrooms is of prime importance for any but the highly specialized smaller clubs. Sleeping accommodations have proved a sound financial investment and demand a comparatively small service budget. In the modern hotel and home the proportion of bathrooms to bedrooms has steadily increased, but in a men's club the ratio can be kept considerably lower, since the temporary bachelor is willing to save a little on his room rent by going down the hall in his dressing gown for his morning tub. In the Harvard Club of Boston, designed by Parker, Thomas & Rice, one-third of the chambers are without baths, one-third share baths with other rooms, and only one-third have individual bathrooms, and this arrangement has proved economical and satisfactory in every essential detail.

One of the stimulants to club life is the informal evening gathering with motion pictures of slow-action football or big-game shooting in Africa, or with chamber music. Frequently the large dining room is used for these functions, and it should have



Dining Room, Penn Athletic Club, Philadelphia  
Zantzinger, Borie & Medary, Architects



Doorway in Lounge, Buffalo Athletic Club  
Edward B. Green & Sons, Architects



not only a motion picture booth and a fixed or portable platform, but also ample storage room, so that the chairs and tables may be quickly and conveniently stacked away. The walls of a large dining hall of wood or stone are often resonant, and large portraits, heavy draperies, or modern replicas of tapestries painted on sound-absorbent materials all help the acoustics. The private dining room is a popular feature, and if located on a central stack of electric dumb waiters and speaking tubes, so that the service is economical, it can be put on a paying basis. Dining rooms for women guests are not generally a financial success, no matter in how great demand they may be by the male members. The attendants must be selected with particular care, the food must be varied and excellent, and much supplementary space is required for waiting rooms, dressing rooms and toilets, for which there is no proportionate increase in membership dues or revenue in other ways.

The restaurant, year in and year out, is seldom a money-maker, but even if run at a loss it is an essential. The swimming pool installation and upkeep are costly and the service required is extensive. While not used perhaps as universally as many other facilities of the club, it is a very desirable, even if expensive, adjunct. Squash courts, though occupying considerable space, are comparatively inexpensive to install (that is if they are put in properly in the first place) and if the walls and floors and ventilation are adapted to their highly specialized needs. One city club started with 25 lockers for the squash players, but, although it made no effort toward emphasizing sports, the demand was so great that in three



Detail, Lobby, Buffalo Athletic Club  
Edward B. Green & Sons, Architects

months the number was doubled, and another 50 had to be added considerably before the year was out.

In any club house supplying service is one of the most important problems, and before the building goes up every detail of its future organization must be visualized and mapped out. In the large club, there is a hierarchy of three or four classes of employes, and although very few if any are resident in



Grill Room, Missouri Athletic Association, St. Louis  
William B. Ittner & G. F. A. Brueggeman, Architects



Dining Room, Harvard Club, Boston  
Parker, Thomas & Rice, Architects





DETAILS IN LOUNGE, PENN ATHLETIC CLUB, PHILADELPHIA  
Zantzinger, Borie & Medary, Architects

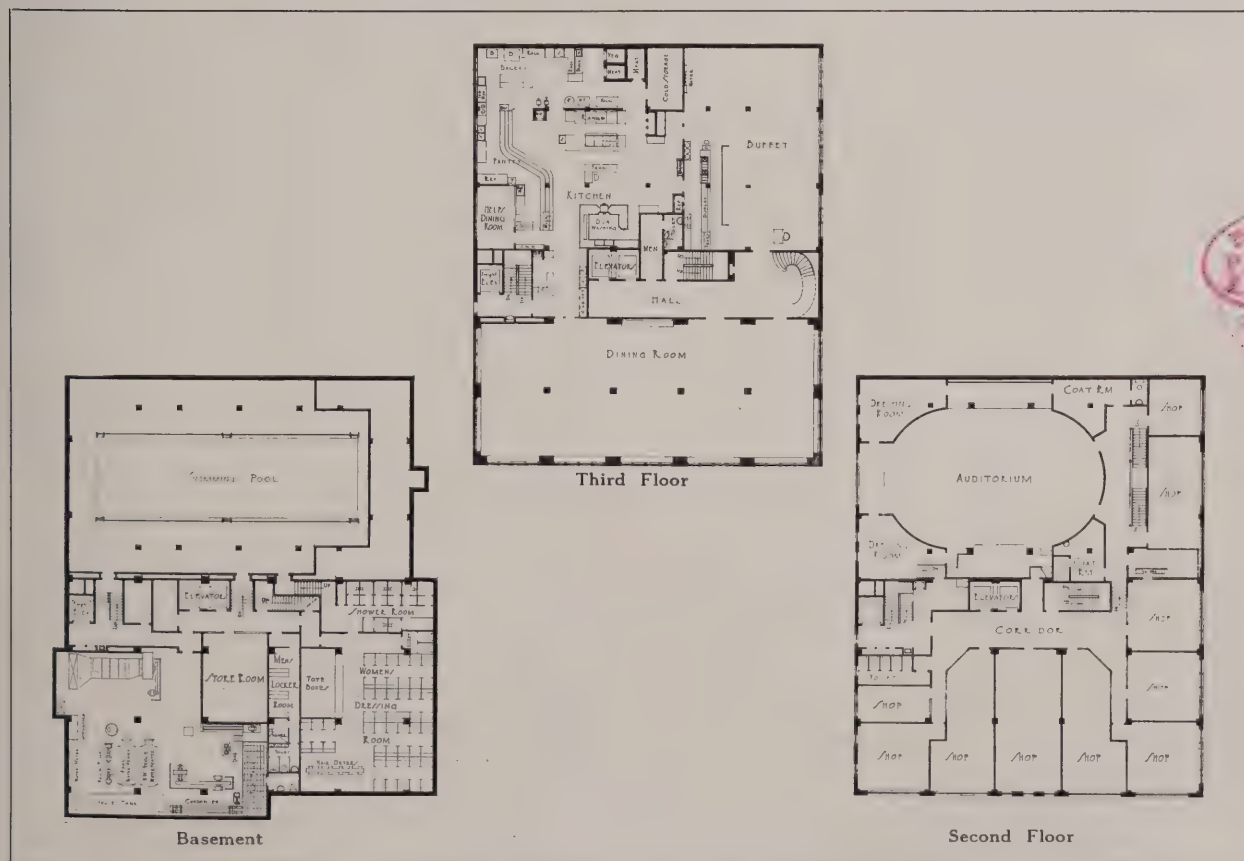


PLANS, THE ESSEX CLUB, NEWARK  
Guilbert & Betelle, Architects





WOMEN'S CITY CLUB, DETROIT  
STRATTON & SNYDER, ARCHITECTS



PLANS, WOMEN'S CITY CLUB, DETROIT



The Lobby



Mezzanine

Details, Friday Morning Club, Los Angeles  
Allison & Allison, Architects

the building, separate accommodations must be provided for each group when off duty, aside from their varied workrooms. The office force or "white collar" group of clerks and bookkeepers expect their own lockers and rest rooms, apart from the chefs, who in turn would not think of feeding with the lower ranks of the kitchen assistants, waiters and bell hops. If there are women employes, they also must have their own dressing rooms, and the entrance to them should be under the eyes of stewards or matrons, who will require individual offices. These special offices may well be located next the service exits, to see that food and supplies are not removed from the building by employes surreptitiously.

The attendance at the entrance and at the front desk is similar to that in a hotel, but modified to obtain an air of privacy and almost domesticity. A member wants to feel at home, and a guest wants to be unostentatiously shepherded to his host. The ideal check room is one close at hand, easily found but almost invisible, and it must have an overflow or large dead storage space, where forgotten golf bags and suit cases may rest in peace until the owner returns to town for the winter, or comes back from that unexpected trip to Montreal. Bell boys are seldom trained to perfect silence and decorum, and an out of the way bench for them is desirable, but they must be near the telephone central so that a member may be quickly located to answer an incoming call. By the same token, it is well to have public telephone stations scattered throughout the building to cut down needless travel. If the telephone central is near the doorman, or if he has a receiver close at hand, the operator can readily check whether or not a member is in the building, when a call is received.

"The Club" has ceased to be a synonym solely for masculine comfort. Since women's organizations

are no longer limited to the uplift of the Y. W. C. A. or the earnestness of civic betterment, they now demand the same degree of smoothly running service as the men. Such feminine sanctuaries offer to the architect, who is artist as well as engineer, still another fascinating problem in the expression of club house character, for each little autocratic republic has its personality. Through the east the general trend is more toward a domestic than toward a monumental scale, and in the south and on the Pacific coast outdoor features such as roof gardens and the raised patio of the Women's Athletic Club of Los Angeles are introduced with great success. A theatrical flavor is more than justified in the stage setting of a club for actors,—a flavor far stronger and more fundamental than collections of photographs of half-forgotten stars and old programs alone will ever give. What subtle characterization might be expressed in the academic shades of a college town where professors gather in paneled rooms for quiet contemplation or fervent discussion! An engineers' club in Chicago requires a delineation utterly different from that of a ranchman's headquarters in San Antonio, and any designer's imagination would thrill at projecting a night club, a really exclusive club, not just a camouflaged restaurant. The Italians of the *Cinque Cento* or the French under the Louis understood the antithesis of exquisite architectural refinement as a background for a rough party, and used a blending of decoration on wall, ceiling and candelabra to enhance the charms of more or less fragile ladies.

In fact it is only in the club for architects that full expression would be intolerable if relentlessly executed. Imagine suites embodying all of Vignola's "Orders" or Ruskin's "Seven Lamps" or America's "Fifty-seven Varieties"! And think of what the members would be always saying about the architect!



# Atmosphere and Personality in Club Buildings

By ALEXANDER B. TROWBRIDGE

WHEN a club member in Rochester or Buffalo or in Detroit enters his club, in city or country, it's "Hello, Tom" or "How are you, Bill"? Everyone seems to know everyone else. In New York a man is quite agreeably surprised (in some of the clubs) if he runs into anyone he knows. It is said that a visitor inspecting the quarters of one of the large college club houses in New York, noticed here and there certain details which prompted him to remark that it reminded him of the Biltmore Hotel. His host, a club member, said: "Yes, it is like the Biltmore, although not so exclusive!" The friendly spirit in a mid-western club is one of the reasons why many wise men refuse to be lured from their native towns by tales of riches and fame to be found in New York. A hospitable atmosphere would exist in such clubs, no matter how unsatisfactory the architecture happened to be, and this atmosphere gives them charm.

It is our problem, in the confines of a brief paper, to try to analyze those features of a club house which lend charm and personality to a building which, through the accident of circumstance, may be the gathering place of many men of diverse characteristics, hailing from the four corners of this continent. In other words, we cannot have in our New York clubs, the fine old friendships which exist in the types of cities just referred to. We must deal with a mixed crowd. We may have in a New York club one man in 50 who is a native New Yorker. Given, then, a membership which is so mixed as to be indescribable to deal with, how may we approach a club problem confident that we can produce something which by its "atmosphere" or its unobtrusive good taste acts as a harmonizing factor over everything? That to my mind is the true objective in a club project. Of course we must have good kitchens, well planned and well equipped. Service rooms must be adequate and convenient in position. Lounges, card rooms, reading rooms, etc., are planned to fit the size of the membership. It is conceivable that all practical requirements might be satisfactorily met in a club house which, in its more subtle aspects, had completely failed. I select a New York club for my object lesson, principally because, as I have already indicated, the problem in that city is made more difficult because of the lack of the cheery friendliness of the middle west. If we discuss the problem in its relation to the most difficult environment, we may reach conclusions of value to all communities, useful to their building committees.

I shall endeavor to demonstrate that it is possible to produce a club house in New York which, through its plan, its choice of architectural treatment on the interior, and the quality of taste displayed in furnishings and decorations, will possess that homelike

atmosphere which is so easily recognized yet so difficult to describe. Members cannot be attracted and held by food alone, even though we admit the immense drawing power of a good cuisine. Quite naturally, I have in mind several clubs which stand out as excellent examples of what I am endeavoring to describe. Among them is the Century Club, at 7 West 43rd Street. The facade has long been admired as a skillful interpretation of a problem essentially American and modern in an architecture borrowed from Italy of the Renaissance. McKim, Mead & White were the architects, but the facade has been credited to Joseph Wells, one of their designers in the latter part of the nineteenth century, who died some years ago. Whether a facade is commonplace or superb, one cannot tell by looking at it whether a club, on the interior, possesses the elusive qualities we have essayed to describe.

The Century Club facade is a distinguished example of good design, yet it does not seem to me that it tells anything about the kind of atmosphere which is found throughout the building. The first impression which one receives after a general inspection of the interior, is that it looks "well used." How often a home reflects the character of a family through the "used" appearance of the furniture! In a similar sense a club like the Century is self-revealing. Its chairs and tables show a patina which can only come with age and from human contact. Its sofas are made for comfort and not for decoration. The library is chiefly decorated by books. It has no claim to architectural distinction. Ionic columns appear on the side walls of this room, but they do not make the room Roman or Italian. They are secondary items in a big room crowded with books. The upper hall is designed with a Corinthian order, Italian Renaissance in character, the wall surfaces between pilasters being subdivided into panels and painted gray. The only touch of richness is in the caps of columns and pilasters, for they are covered with gold leaf. The dining room is distinctly English in spirit, though an antique Italian stone chimneypiece is used at one end of the room. The walls are paneled in oak, and the ceiling is subdivided by a pattern formed by intersecting circles of mouldings in plaster, with here and there a boss hanging where the mouldings cross one another. The fact that the chimneypiece is of a southern character and, from the purist's point of view, inharmonious with the walls and ceiling, does not count in this attractive room. Perhaps the long middle table, where a friendly relation with your neighbor is traditional, may be one of the reasons why this club enjoys the reputation of being hospitable and genial. The club interior seems to be a suitable background for its distinguished membership. There are many por-

traits and landscapes, somewhat low-toned and out of today's fashion, but giving to the walls a dignity not obtainable in any other way. Throughout, there is a welcome absence of frills and carving and mere-tricious ornament. It looks like a place which is frequented by men of discrimination and taste.

What is taste anyway? Is it what you and I like, or can it be given a more satisfying definition? I believe an interior should be considered a background for those who occupy it. If backgrounds are aggressive, over-ornamented, full of restless decorative details and accompanied by ornate and ostentatious furniture, it may be assumed that those club members who are set off by such backgrounds are aggressive "go-getters" who could not be happy in a quiet atmosphere. If, therefore, one is asked to design a club interior for a membership of commonplace individuals, perhaps there might be some justification for a richly decorated, highly ornate series of rooms. To my mind the nicest compliment one can pay a club membership is to assume that it wants simple surroundings, comfortable furniture and quiet colorings, and to design and plan accordingly.

There is such a thing as giving a skilled architect a fairly free hand in determining ceiling heights. Some of the splendid rooms of the University Club in New York are higher than they need be from any practical viewpoint,—but if a building commit-

tee had dictated to Mr. McKim on this point, what would these rooms have become, and what would have happened to the facade? *There* is a building which to my mind exemplifies in many ways the best which has been done in American architecture,—particularly on the exterior. The big first floor lounge and the big dining room near the top of the building seem to suggest a certain superb independence on the part of the architects. There are times when an architect of character finds it necessary to "go to the mat" with his client in order to put through certain features of his project which he visualizes more readily than the client. The interior of the University Club is a faithful interpretation of the kind of membership which has to be given a certain background. While there are many distinguished men on its roll of members, it is admitted by many that it is too large, too "cosmopolitan" to even seem truly club-like. It is more like a handsome, dignified hotel. Its architectural background is monumental in size and scale, handsome to an unusual degree, and homelike only to those who like to live continually with heavy plush wall coverings, high wainscots of paneled and carved woods, and a liberal supply of gold in decoration. While it is admittedly a fine piece of work, architecturally speaking, it exhibits a formality of treatment which must necessarily be antagonistic to any



Biddle Memorial Room, Harvard Club, New York  
Charles A. Platt, Architect



Reading Room, India House, New York  
Delano & Aldrich, Architects



effort to produce what you and I call "homelike" atmosphere, or what is desired in most clubs.

The Down Town Association on Pine Street has a certain air, hard to describe, yet quite definite. It is only a lunch club, and as such is used by business men who discuss business questions, yet there is something about the interior which suggests that it is on a higher plane than merely a place to feed busy men between 12 and 2. It is doubtful whether anyone would give it, on exterior or interior, a very high rating architecturally, yet the atmosphere of the place betokens good breeding, the daily gathering place of men of taste. India House, on Hanover Square, does not reveal much on the exterior. It is true that whoever originally designed this building for William R. Grace & Company was trained in the elements of good architecture, but the interior, developed into a club house by Delano & Aldrich with the sympathetic coöperation of the late Willard D. Straight, is one of the most attractive clubs in New York. Here is a background, made picturesque and colorful by ship models and colored prints and by fine examples of the craftsmanship of Korea and Japan in the form of screens, which is intended to "set off" an exclusive membership of men of commerce and industry. The club has atmosphere and charm. Here good taste in the use of comfortable furniture, combined with an instinct for arranging

picturesque and unusual decorative accessories, is the explanation. Few clubs have more "personality."

When I first saw the present Oakland Golf Club, Roger H. Bullard, architect, I was impressed by a quality which did not explain itself immediately. I tried to analyze it, and finally concluded that Mr. Bullard had shown skill and taste in the use of materials. There was in particular a long porch or covered terrace containing furniture which fitted admirably into an environment of rough plastered walls, a tiled floor not too smooth and regular and, if I recollect accurately, some ceiling beams which betrayed a hand finish rather than a finish made by machinery. If these details are not strictly accurate, it does not matter. The effect is what I am trying to describe,—the atmosphere of a place designed for men in a country athletic club. The air of the place was cool, summery and alluring, yet it retained a masculine quality. Other portions of the building indicated concessions to the feminine element, which must always be reckoned with in our country clubs. It would be absurd to carry the masculine touch throughout a building which is to be largely used by women. The artist is he who skillfully differentiates when he carries through his detailing and specifies the materials for the various rooms, how they shall be installed, and what kind of finish they shall receive. Has it ever occurred to you that the



University Club, New York  
McKim, Mead & White, Architects



Century Club, New York  
McKim, Mead & White, Architects



specification writer, if he is to supplement successfully the efforts of the designer, must possess to a considerable degree, the artist's conception of the final result?

These few buildings have been selected at random, from my own experience. Many others could be referred to if it were desirable to present a list of clubs which qualify as successful club projects. But that is not the purpose of this paper, which is to try to present, for layman as well as for architect, the reason why some clubs satisfy and others do not.

I would like to discuss this problem with a layman, perhaps with a committee chairman who is just starting consideration of plans for a new club house. It will not do, Mr. Chairman, to assume that *any* architect can design a club house. Experience with skyscrapers and monumental buildings does not necessarily qualify a man in the gentle art of providing club atmosphere. An artist or a man possessing an artist's soul inside of a businesslike body is the kind of man to seek. He must be a bit of a psychic, in that what he accomplishes comes from feeling quite as much as from architectural rules and traditions. If, in the search for such an architect, you visit club houses which please you, be sure to find out all that you can learn about the way in which the furnishings were selected. Did the architect handle this, or was the decorator employed to work under the architect's direction? If so, who? Having chosen men who by their executed work have demonstrated their fitness for undertaking your problem, leave them as much unhampered as possible. I have seen a project of considerable size and distinction greatly injured by the assumption on the part of the owner that he knew better than the architect how much ornament should be chopped from the original design. It was an instance where the owner was so insistent upon extreme simplicity that he overdid it and nearly ruined an otherwise promising design. Many an architect who will do his best work through coöperation will lose heart and interest if he is crossed by a bossy client. In any case do not force your architect to complete his studies in a hurry. Take plenty of time in an exhaustive inquiry into every phase of the program. His studies are not unlike a surgeon's diagnosis. If correct, the operation which follows will be successful; if incorrect, because hurried, a failure is likely to occur. Much depends upon the preliminaries.



Corner of Lounge, India House, New York  
Delano & Aldrich, Architects

Another bit of advice I would like to offer is to presidents about to appoint chairmen. Look for men of taste for this all-important assignment. One or two men of practical building experience would be a safeguard on any building committee, but do not assume because they are builders or engineers, or even architects, that they necessarily possess this rare sense to which I have alluded, which will enable them to work sympathetically with an architect who is intent on producing the atmosphere which you desire. Suppose your architect is sensitive to these subtle aspects of

your problem, but is not a fighter. You will lose what you are aiming for unless your chairman understands his architect and will supplement him where he most needs support. It must not be forgotten that architecture as we have been considering it is an art and always will be, no matter how far business and construction seem to dominate. There are dozens of architects capable of constructing a sound, tight building, well heated, well "plumbed" and well lighted, who will hardly understand the drift of my advice as given in these paragraphs.

To the architect I would say, pick clients who possess good taste if you can. If that is impossible, then fight for the right as you understand it. I remember bombarding a client with letters filled with arguments in favor of the engagement of a special type of interior trim sub-contractor instead of the local company which has always been considered good enough for my client's business and for his father's construction in years gone by. I risked a good deal,—among other things, the very great danger of his fearing that my advice was influenced by the percentage fee, for the firm I recommended had to be given a substantial preference if it was to be engaged. I finally won the client over to my way of thinking. One year after the residence was completed, the client called for the specific purpose of thanking his architects for insisting upon the selection of the more expensive interior trim. By way of conclusion, let me advise the architect to choose that kind of client if possible, for he was a good sport. The success of a club project is quite as important to the architect as to the club's building committee, for successful designing, planning and supplying equipment are certain to create prestige which will bring more and more commissions into his office and help him to qualify as a "specialist" in clubs.

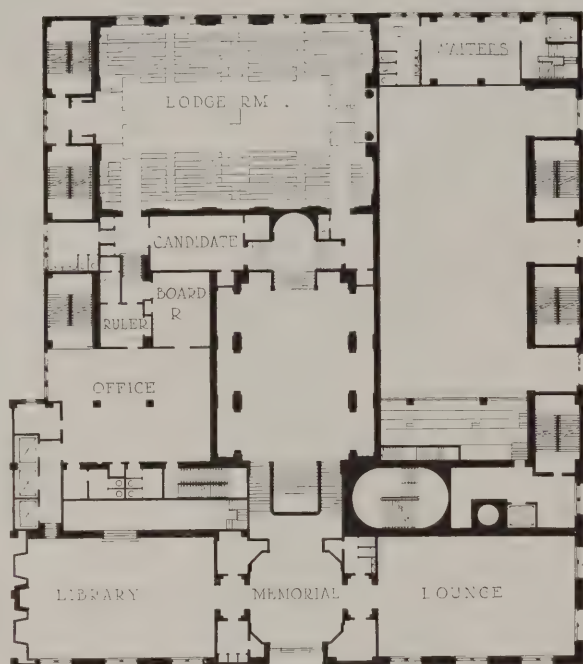




Photo. James L. Dillon & Co.

ELKS' LODGE NO. 2, PHILADELPHIA  
ANDREW J. SAUER & CO., ARCHITECTS

Plans on Back



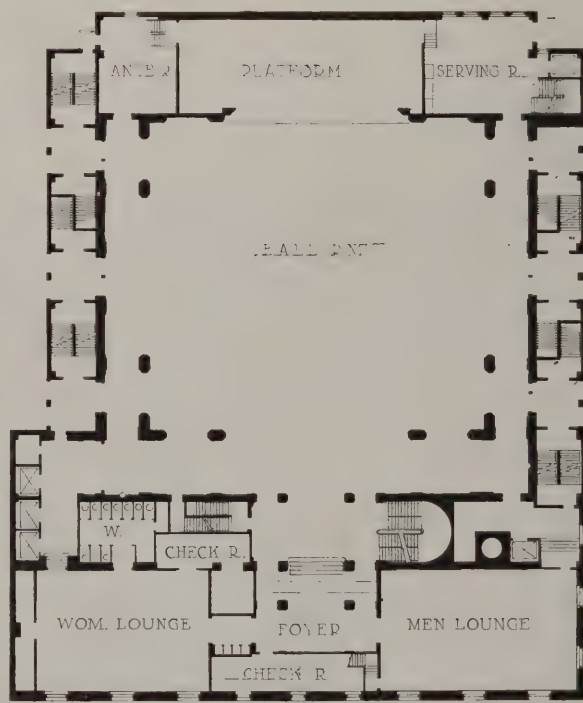
MAIN FLOOR



TYPICAL BEDROOM FLOOR



GROUND FLOOR



BALL ROOM FLOOR

PLANS, ELKS' LODGE NO. 2, PHILADELPHIA

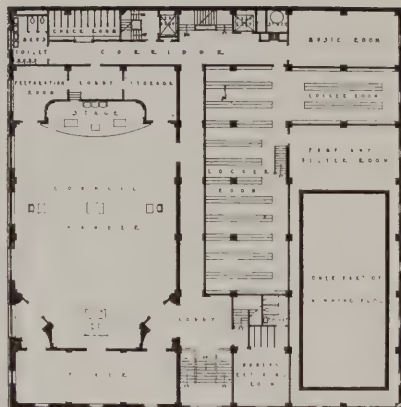
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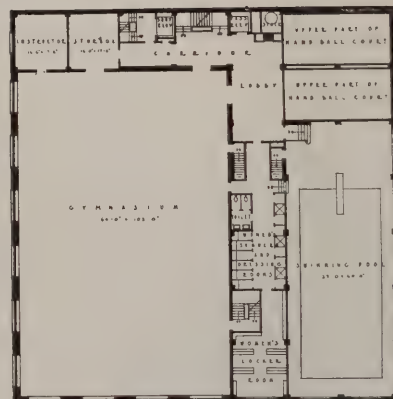


*Photo. M. Haskell*

KNIGHTS OF COLUMBUS BUILDING, COLUMBUS, O.  
RICHARDS, McCARTY & BULFORD, ARCHITECTS



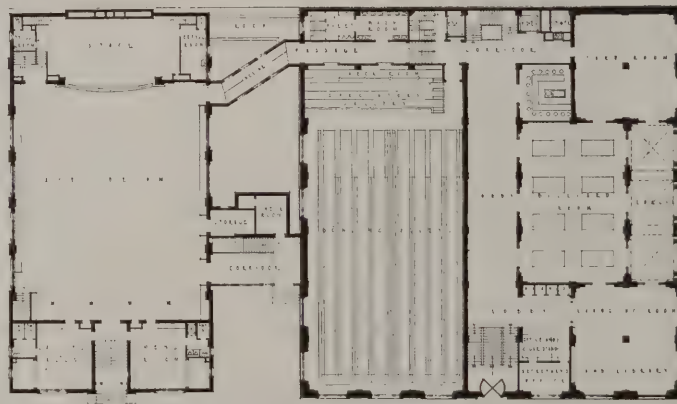
SECOND FLOOR



THIRD FLOOR



GROUND FLOOR



FIRST FLOOR

PLANS, KNIGHTS OF COLUMBUS BUILDING, COLUMBUS, O.

RICHARDS, McCARTY & BULFORD, ARCHITECTS





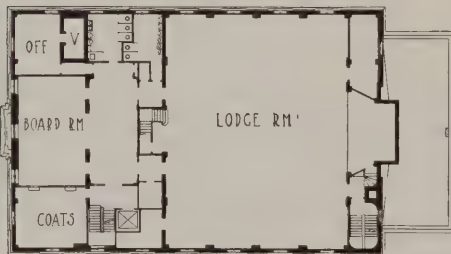
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ELKS' LODGE, ELMHURST, N. Y.  
THE BALLINGER CO., ARCHITECTS

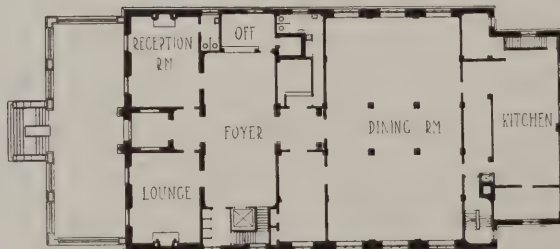




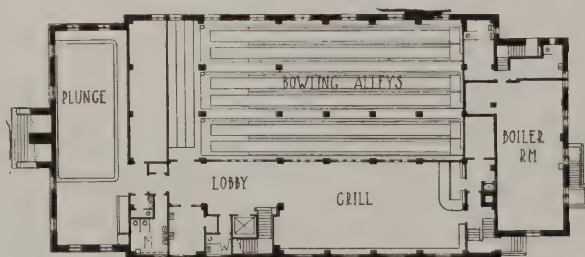
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



BASEMENT

PLANS, ELKS' LODGE, ELMHURST, N. Y.

THE BALLINGER CO., ARCHITECTS



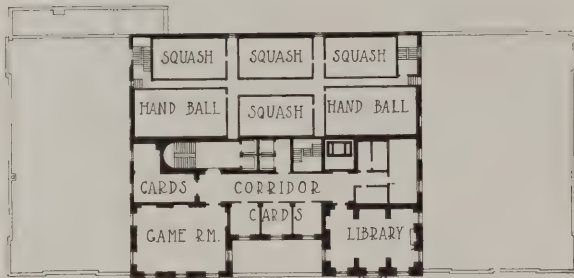


Photo. Hare

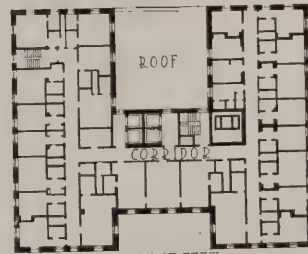
BUFFALO ATHLETIC CLUB, BUFFALO  
EDWARD B. GREEN & SONS, ARCHITECTS

Plans on Back



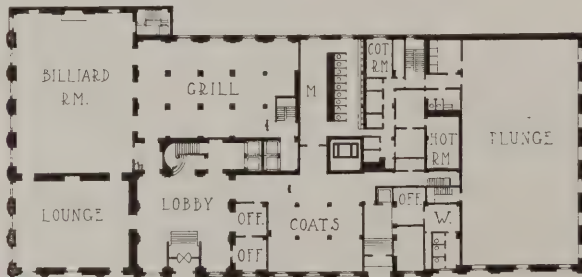


GAME ROOM FLOOR

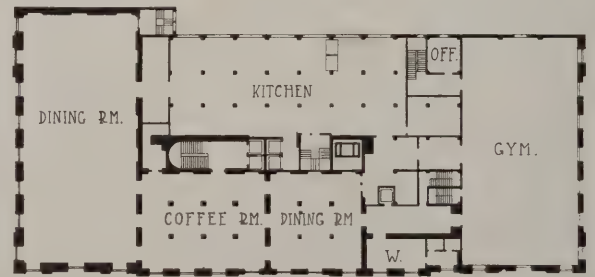


SCALE OF FEET  
0 5 10 20 30 50

TYPICAL FLOOR



GROUND FLOOR



DINING ROOM FLOOR

PLANS, BUFFALO ATHLETIC CLUB, BUFFALO

EDWARD B. GREEN & SONS, ARCHITECTS

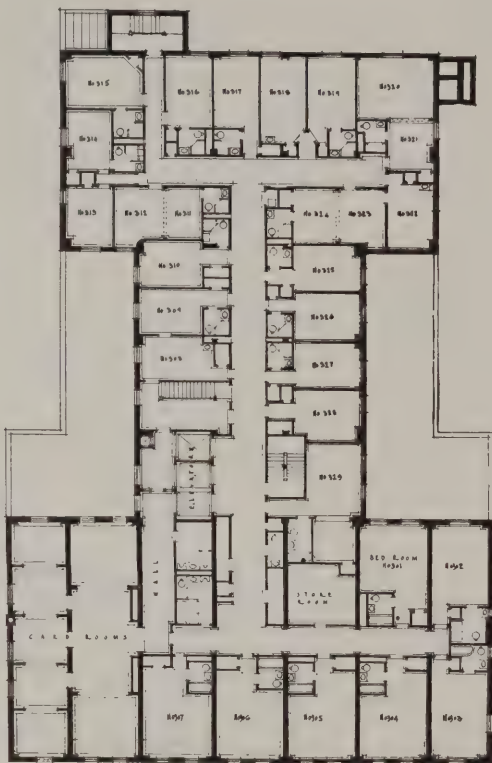




*Photo, Walters Studio*

NEWARK ATHLETIC CLUB, NEWARK  
JORDAN GREEN, ARCHITECT  
ROBERT NORDIN, SUPERVISING ARCHITECT

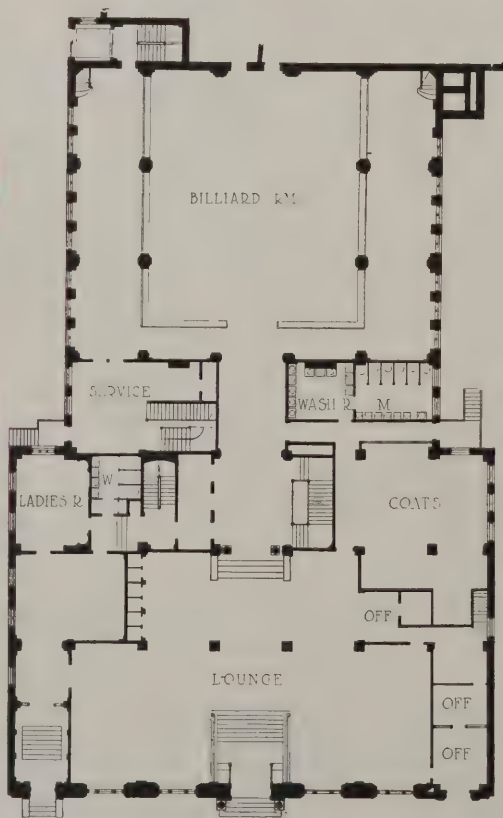
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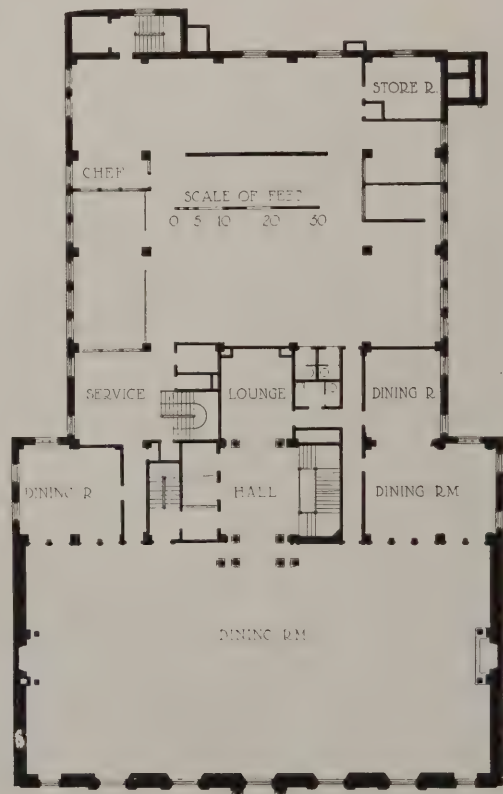
Third Floor



Typical (4th to 9th) Floors



First Floor



Second Floor

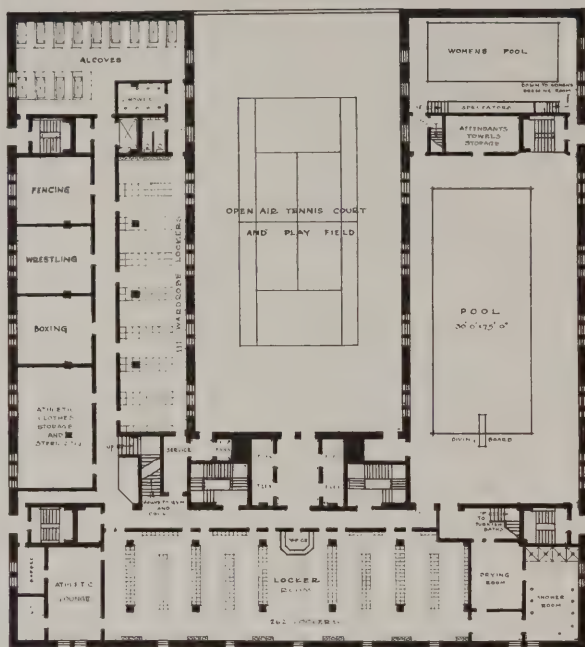
PLANS, NEWARK ATHLETIC CLUB, NEWARK  
GORDON GREEN, ARCHITECT  
ROBERT NORDIN, SUPERVISING ARCHITECT





*Photo. John Wallace Gillies*

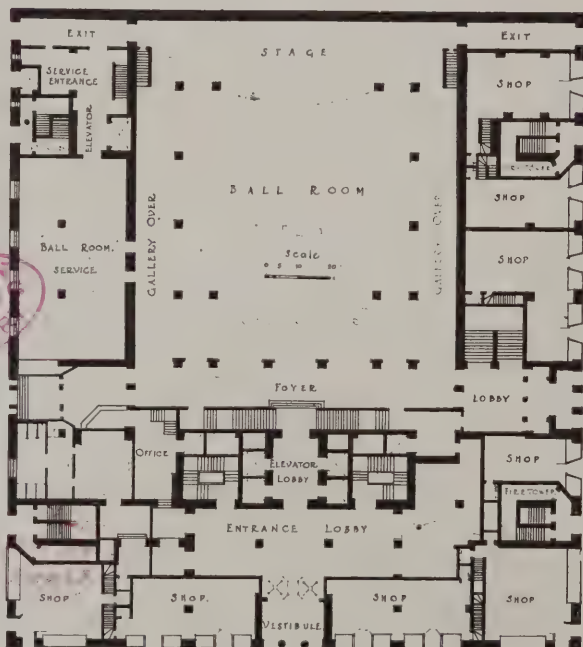
PENN ATHLETIC CLUB, PHILADELPHIA  
ZANTZINGER, BORIE & MEDARY, ARCHITECTS



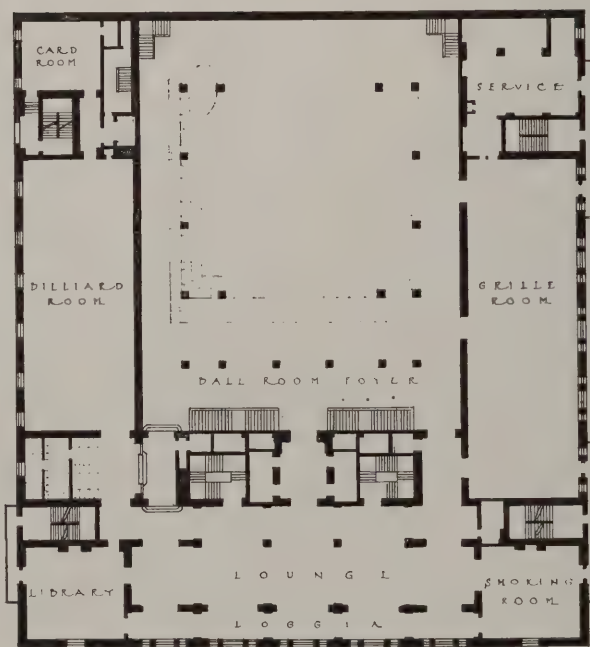
FIFTH FLOOR



TYPICAL BEDROOM FLOOR



FIRST FLOOR



SECOND FLOOR

PLANS, PENN ATHLETIC CLUB, PHILADELPHIA

ZANTZINGER, BORIE & MEDARY, ARCHITECTS

BOSTON  
PUBLIC  
LIBRARY





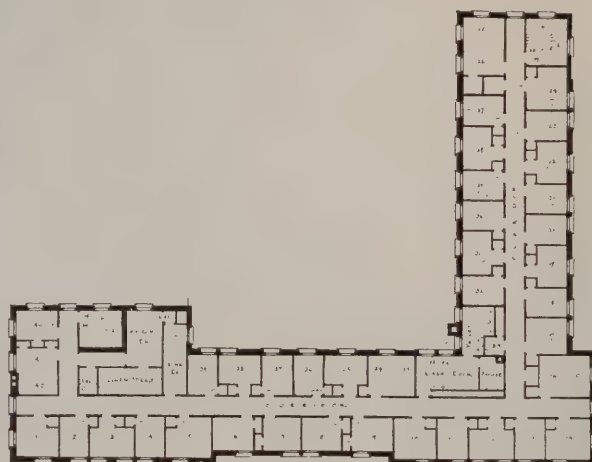
Plans on Back

Y. M. C. A. BUILDING, SHREVEPORT, LA.  
CLARENCE W. KING, ARCHITECT

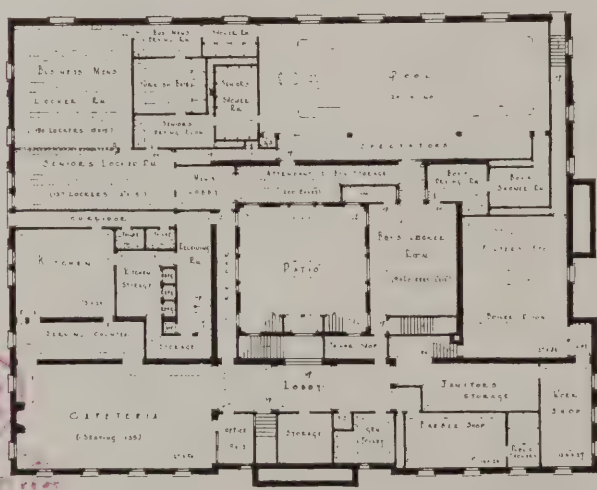




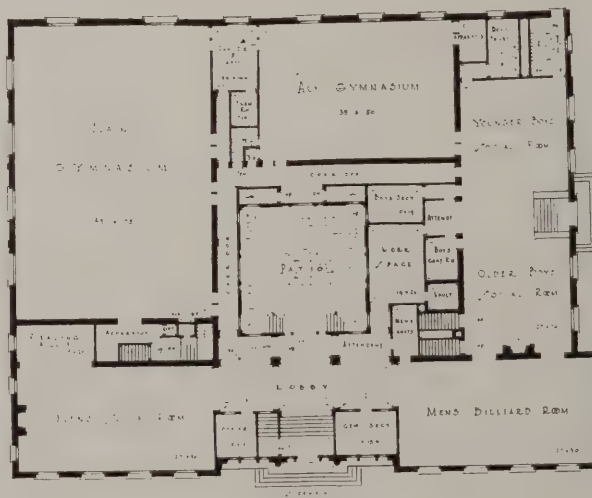
SECOND FLOOR



THIRD AND FOURTH FLOORS



BASEMENT



FIRST FLOOR

PLANS, Y. M. C. A. BUILDING, SHREVEPORT, LA.

CLARENCE W. KING, ARCHITECT

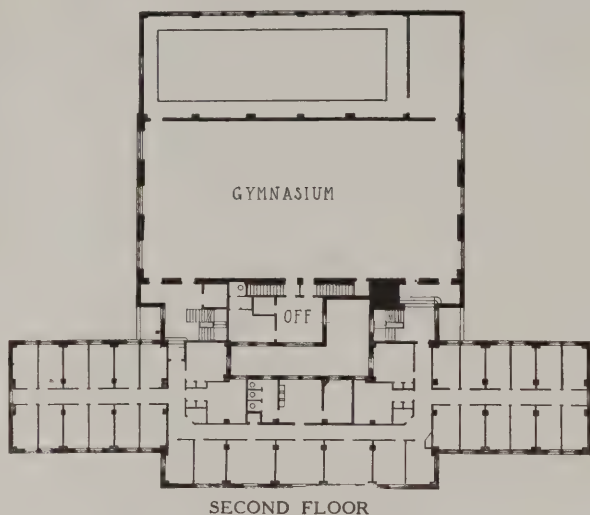




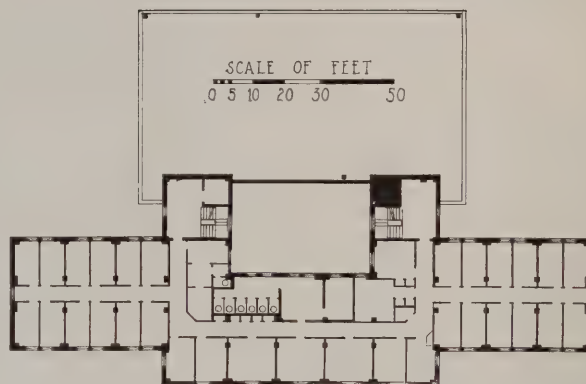
Photo. Kenneth Clark

Y. M. C. A. BUILDING, FLUSHING, N. Y.  
FREDERICK L. ACKERMAN, ARCHITECT  
ALEXANDER B. TROWBRIDGE, ADVISORY ARCHITECT

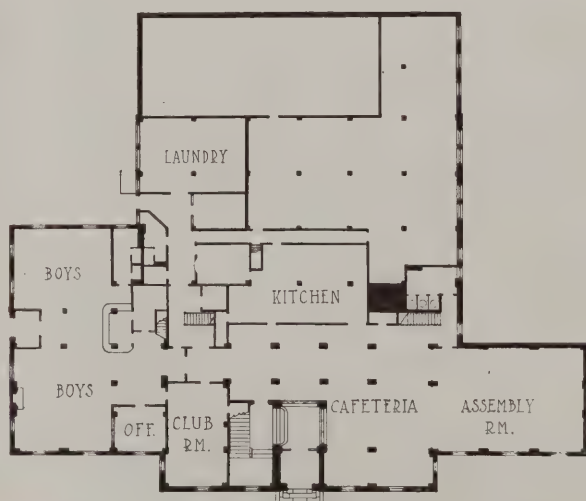
Plans on Back



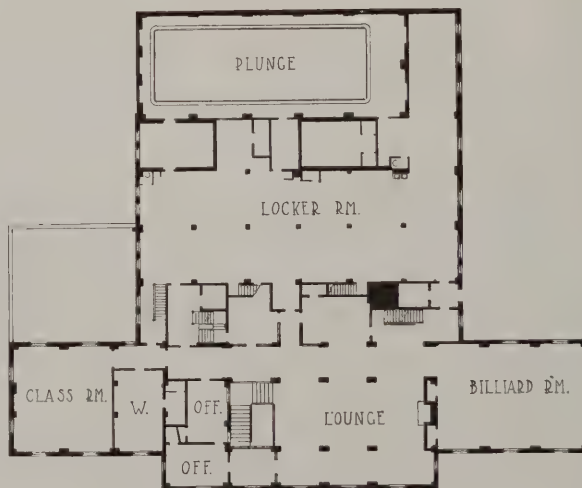
SECOND FLOOR



FOURTH FLOOR



GROUND FLOOR



FIRST FLOOR

PLANS, Y. M. C. A. BUILDING, FLUSHING, N. Y.

FREDERICK L. ACKERMAN, ARCHITECT  
ALEXANDER B. TROWBRIDGE, ADVISORY ARCHITECT





# Planning the Y. M. C. A.

By LOUIS E. JALLADE

IN writing an outline of the principles underlying the planning of the Y. M. C. A. structure, it is necessary to review briefly its building program up to date. The Association first started with an assembly room, and it grew around this idea of a meeting room for Christian association until it had reached its highest development as exemplified in the old 23rd Street Branch, New York (demolished about 1902). This building consisted of a large auditorium for the holding of religious meetings and membership entertainments, and for income. It had an unusually large reading room in which were kept periodicals, and a memorial library containing 48,000 volumes. There were a number of classrooms in which were taught languages and mechanical drawing. On the street level were stores for the raising of revenue. The upper part of the building contained a number of studies, and on the upper floors there was a Boys' Department. In the basement there were small locker rooms, a small number of showers, and a very poor gymnasium. This constituted the contents of the building, which was then considered the last word in Association planning.

After this structure had been built there were a great number of Associations organized in the larger cities, and they copied more or less the building program of 23rd Street. They came much later, but nevertheless they copied many of the errors that 23rd Street contained. The Y. M. C. A. had not yet developed its full program. However, buildings were needed, and it is curious to note that most of these structures throughout the country were designed by an Albany firm of architects who became specialists in this type of work much as we have specialists today. The older buildings, many of them now destroyed, such as those at Cincinnati, Columbus, Philadelphia, Hartford, etc., were all alike in general appearance, without as well as within.

After 1900 the Association began as a body to develop the idea that it was more profitable from an Association point of view of service to young men to house them within their own buildings rather than to send them out to the questionable comfort of outside rooming houses, and to the new building programs the building committees began to add dormitories. The experience has developed that most Associations never have enough dormitories; in other words, they almost always erect buildings too small. The Association also began to find that it needed the space devoted to the reading room and libraries for its more active developments. The reading room was usually a place for idlers, and the Association was taking on an intensive program for the development of a greater number of young men. Later it began to do away with the auditorium, when it was found that it could only be used once a week, and that usually when rented out it interfered with

the program of the Association. Most of the older buildings that have been remodeled recently have made an attempt to turn their auditoriums into smaller classrooms or into dormitory rooms, and only a small percentage of the newer buildings have included auditoriums. The Boys' Department began to grow in importance, and soon large sections of the buildings were devoted to boys. In the new buildings the boys have their separate entrance lobbies, in fact a duplication of those of the Men's Department, and their department is of importance.

The restaurants, which had been popular in the old buildings, were discontinued in most cases because better eating facilities could be found elsewhere or because the neighborhoods did not particularly respond to the restaurants. Stores were done away with because it was found necessary to bring the activities of the Association down to the street level,—it was more important to lose the revenue of the stores, which is now made up for by the new idea of the dormitories, and to place within sight of the public the advantages of the Association. This was particularly noticeable in Schenectady and Bridgeport, where bowling alleys replaced the street level stores. In examining the remodeled exterior of the Pittsfield Association building, one will find that the show windows on the street level are now used for giving the public a view of the Association cafeteria, a department which has become increasingly popular.

In 1906 I received my first commission to design an Association building, and while I understood the problem well, I toured the country to find what new ideas had developed. There were some, but what was most remarkable was the absence of any idea of standardization as to units required or their sizes. The tendency on my part was to do what so many other architects have subconsciously done, and that was to copy more or less what I had seen. It never occurred to me then that the whole Association planning problem could be put on a scientific basis, analyzed and standardized. After I had obtained several additional commissions, I began to develop an intimate view of the problem from the standpoint of the secretary in charge, and soon found that if the Association was to be successful, and by that I mean, to give adequate gymnasiums, swimming pools, etc., and to operate them at a lower cost, it was necessary to establish some certain definite principles. The first I formulated was that the plans should be so arranged that the working staffs could be reduced in size so that better supervision of the various activities could be had. In other words, fewer paid attendants and better pay for such help. Another principle that was formulated later was that the buildings should be flexible, and by that is meant that all rooms should be in continuous use by





Perspective, Y. M. C. A. Building, Montclair, N. J.  
Starrett & Van Vleck, Architects

various activities. To illustrate, an auditorium used once a week or a Trustees' Room used less often, was a waste of space unless it could be arranged to accommodate other activities. Then there came the principle of circulation, and that means that rooms for the activities should be grouped so that the passages to and from these rooms should be short. Most of the old buildings had endless corridors, and in a highly specialized building, like those of the Association, a square foot of building space that is not used means so much first cost, insurance, main-

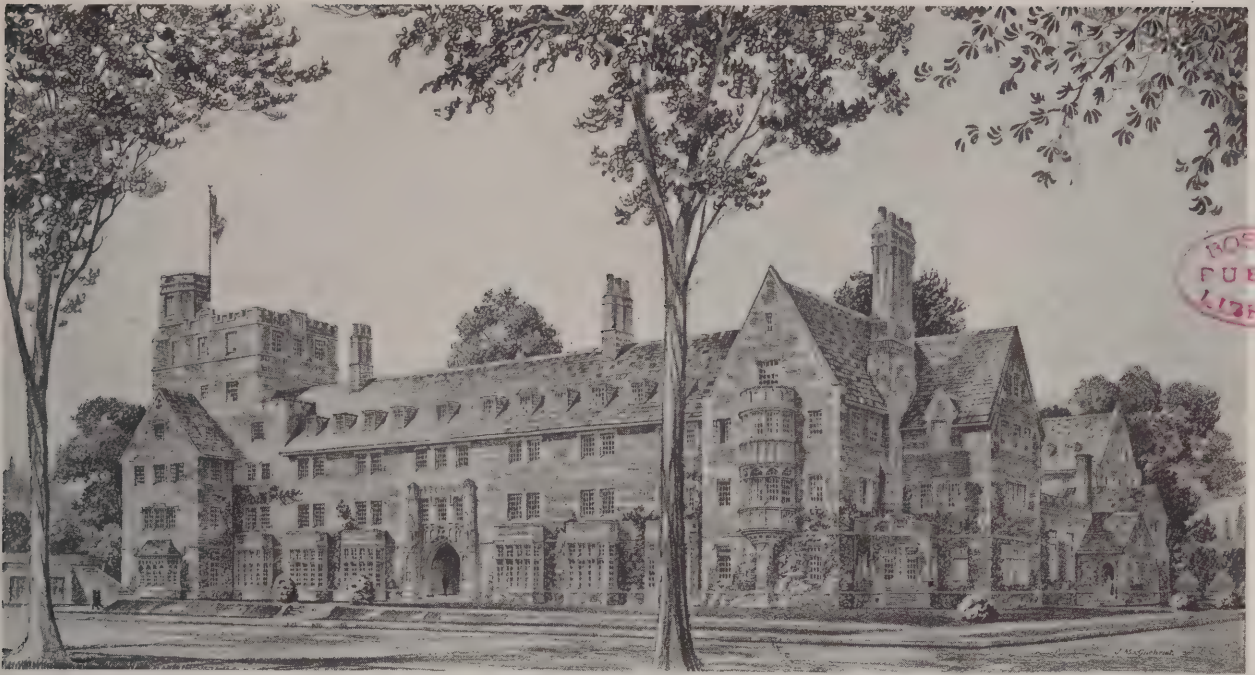
tenance, janitor service, heating and lighting. Accordingly by rearrangement of the plan, I endeavored to eliminate as far as possible corridors and passageways, all this being in the interests of economy.

Meanwhile, there was another firm of architects, in Chicago, that was planning numerous Association buildings in the middle west, and much credit is due to Shattuck & Hussey for having developed on their part the first building with centralized supervision, which was well expressed in the building at Kokomo, in Indiana. Thus firms working independently of



Lounge, International House, New York





Proposed Building at Ardmore, Pa., for Combination Y. M. and Y. W. C. A.  
Louis E. Jallade, Architect

each other developed certain underlying principles which are still the basis upon which the model Association structure is planned. A great wave of Association building went over the country about 1910, and this new technique in the designing of the Association building is to be found used in such structures as those at Providence, Brockton, Mc Keesport, Roanoke and elsewhere over the country.

In reviewing the work of the last decade, one would immediately say that efficient buildings have been planned, but that the Association had gone far

wrong in the matter of taste. This was due, on one side, to the idea which was often expressed by the secretaries that the interiors of the buildings should be simple so as not to frighten away the young men. That was one of the criticisms that were made of the Baltimore and Washington buildings at the time. Of course the idea was all wrong. Every one of the Associations tried to get too much for the money, and the main idea of the building committees was to get the largest buildings possible by eliminating refinements of exterior and interior



General Lobby, International House, New York





Y. M. C. A., Roanoke, Va.  
Jallade & Lindsey, Architects

finish. When the building was finished there usually was not enough money left for the purchase of proper furniture and decorations, and in many cases these two important items were entirely overlooked.

While the Y. M. C. A. had been standardizing as to its plans and materials and operation and erecting purely utilitarian buildings, the young women, on the other hand, had been carrying on quite a definite building program without much regard to standardization, but quite a good deal of study was being given to their decorations and furniture, and there began to exist quite a marked difference in the character of the two buildings, although both are very much alike in requirements. The Brooklyn Central Y. M. C. A. was the first large building where an attempt was made to give the interior an

architectural treatment and where good furniture was used. The first small sized city that made a positive attempt at architectural treatment and decoration was Trenton, N. J., and this result was so far ahead of what had been done elsewhere that it immediately attracted attention. There is a decided tendency since the war period on the part of secretaries and building committees to raise the general tone of the interiors of the Association buildings from an architectural point of view. This is very interesting, but there is yet much missionary work to be done.

The "International House" in New York, a Y. M. C. A. type of building, was really the first structure in which an attempt was made to put the interior of this type of building where it belongs. It was the intention of the building committee and the architect to set an example, and much time was spent in the study of the interior and furniture. They believed that buildings of this type should set a definite standard of good taste that might be carried to the home, and they made an attempt to surround the youth with a higher grade of interior. In addition to spiritual and physical development, it was desired that he might be taught an appreciation of the beautiful, and whereas the idea of durability that was so much desired in the old type of building was almost always expressed in furniture by the so-called "mission" type, it was decided that in International House it should be expressed by graceful furniture and well selected coverings, and where the old time Association building did away with window hangings, International House went to great pains to use beautiful draperies, and the old fumed



Directors' Room, Y. M. C. A., Greenwich, Conn.  
M. L. & H. G. Emery, Architects



oak which was used because it did not show finger marks was replaced by well selected furniture.

The Association owes its success to the fact that it anticipates the needs of the community. In the way of education, it has always tried to supply that which was wanted and not yet given by the public school authorities, and in many cases as soon as these requirements were supplied by the public schools, the Y. M. C. A. turned to some new activity. This is not only true in the educational field but in the field of physical education or in dormitory facilities as well, and it is for this reason that in another part of this article the claim has been made that the plan of the Association building should be flexible so that the structure can be changed to accommodate these many and varied program changes as they come.

The Y. M. C. A. divides its centers into several groups. There is first the large city Association, such as the West Side in New York, the Brooklyn Central, or that in Boston, which can only find place in a congested city and on main lines of traffic, and while the Association does its best work in small communities, the large city building is necessary in some cases. But these larger centers are usually supplemented by an outlying group of small branches, because it is found that younger men and particularly boys cannot travel long distances to the large central buildings. Then there is the small town building, such as those at Trenton, McKeesport, Plainfield, Brockton and other places of that type. This building is a unit by itself, and is merely a small reproduction of the larger building. Its program and requirements are much the same, but smaller.



Y. M. C. A., Williamsport, Pa.  
Thomas, Martin & Kirkpatrick, Architects

Then there is the Railroad Branch, which has an entirely different program, different because of the nature of its membership. The students' group is another type, large on club rooms and social layouts, but small on physical education plant, — or in other words, it does not duplicate college equipment.

There is a new idea being seriously considered by a commission composed of officials of the Young Men's and Young Women's Christian Associations, and that is the development of a combined men's and women's building. This idea is in agreement with the theory, which is sometimes correct, that the smaller town cannot afford two separate and independent organizations, one for men and one for women, and that if a combination building could be devised it would mean one campaign for funds, one



Y. M. C. A., Greenwich, Conn.  
M. L. & H. G. Emery, Architects



budget, one boiler and one roof, one operating force, and the use in common of such details as the natatorium, gymnasium, etc. The idea is being tried in existing buildings. It will be impossible to arrive at a conclusive decision as to whether it is practical until an efficient structure has been specially built in which to try the experiment and to do it real justice.

This is to be tried in a new building now under course of construction in Hackensack, and the plans are reproduced herewith. This building is to contain a department for men and boys and one for women and girls, and it would be well to analyze in general what this means. The boys have a separate entrance and their own department complete with all secretarial, physical training and educational features, as in an ordinary Y. M. C. A. building. Similar accommodation is provided for girls on the opposite side of the structure. The main entrance and central portion of the building are for both the men and the women. The natatorium and gymnasium are planned so that they can be used by any of the four departments without interference with other departmental activities. The main gymnasium is so arranged that it can be used as a public auditorium without interrupting the physical training program of other departments in the supplementary gymnasium. If the town is carrying on an active program for both sexes, then there is danger that the programs of both will interfere with each other. For instance, it is expected that the combination building will have set aside for the exclusive use of the women and girls a set of social and recreation rooms.

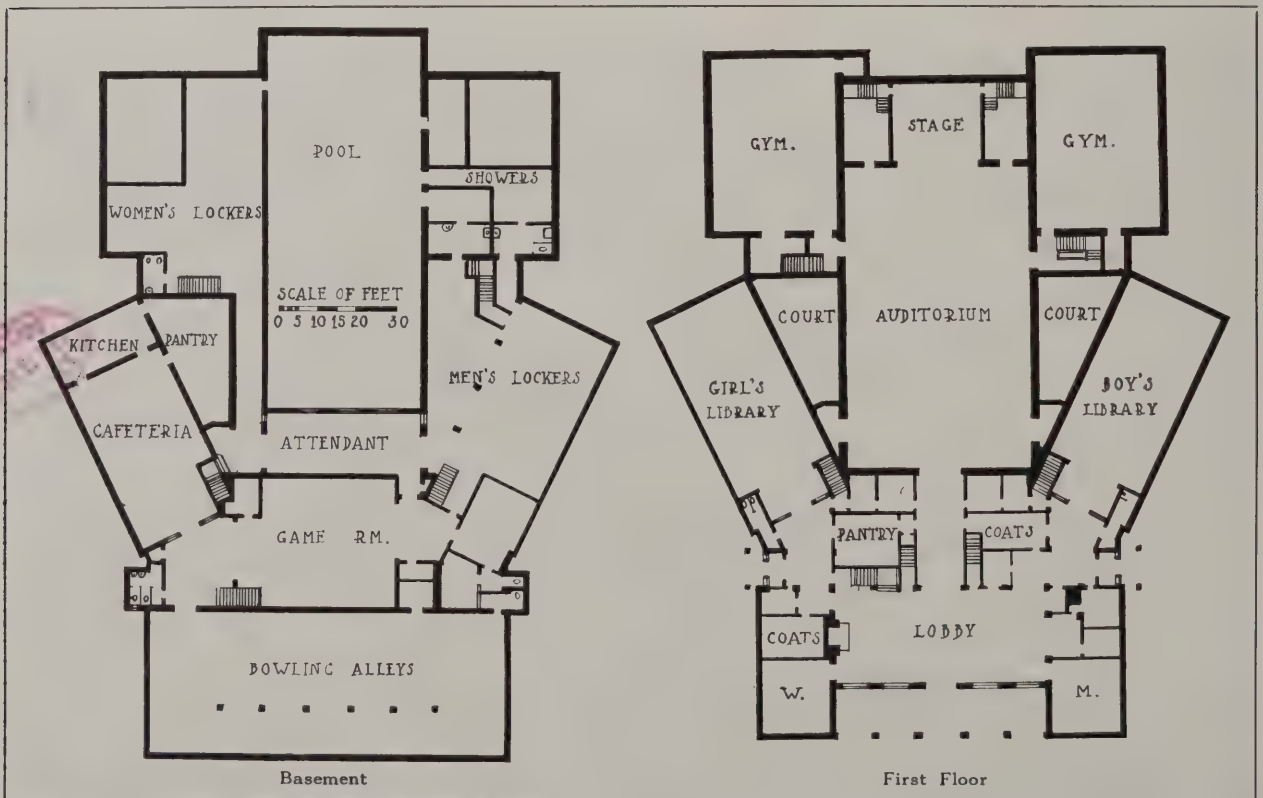
There will be the same for the men and boys; that is, there will be two lobbies, there will be two game rooms, etc., but there will be only one natatorium, the women using it on certain days, the men on others.

This idea of a combination building, while extremely interesting, is not to be recommended for every community. A decision can be arrived at only when a thorough survey and analysis have been made of the number of young people in the town and the hours which they can devote to their activities. Then there is the question of whether women's work will be handicapped in its growth through its being joined to the men's work in the same building. It will be very interesting to watch the experiment.

#### The Y. M. C. A. Architectural Bureau

One of the developments of the past 12 years in Y. M. C. A. building has been the establishment of the Architectural Bureau of the National Y. M. C. A. Organization. Its functions, briefly, are those of Consulting Architect in the specialized planning of Y. M. C. A. buildings. The Bureau, when retained by the local Associations, is prepared to supply the architect with scale details of the special portions of the building such as gymnasiums, handball courts, swimming pools, locker rooms, showers, etc. A complete outline of special requirements as a basis for specification writing and a floor layout of each room showing the furniture and equipment, as the basis for the general decorative scheme are provided. Lists indicating every item of the furnishings are made, and detailed drawings and specifications prepared for the competitive bidding of furnishing and equipment houses. Every effort is made to place in the architect's hands such complete and tested data that he will be able to produce necessary plans with the least expenditure of time.

While the use of this service by the local Y. M. C. A. is in no sense obligatory, the results secured in finished buildings have been regarded as so satisfactory that the Bureau is functioning wherever Y. M. C. A. building is going on.



Plans, Proposed Combination Y. M. and Y. W. C. A., Hackensack, N. J.  
Louis E. Jallade, Architect



# Heating and Ventilating Club Buildings

By DWIGHT D. KIMBALL

THE mechanical equipment of a club building is doubtless the most important single factor entering into the efficiency of operation of the structure and into the comfort of the occupants thereof. This equipment includes the heating of the building, the ventilation of its departments, and provision for cooking by steam and for laundry work.

The installation of the heating system is a relatively simple matter. It may consist of either a one-pipe or two-pipe gravity steam heating system. Frequently, however, the vacuum return steam heating system is used to promote efficiency and economy in operation. This involves the installation of a two-pipe vacuum return line system, together with the installation of duplicate automatically controlled centrifugal vacuum condensation and air pumps. Direct radiation is customarily provided in all rooms of the building, those radiators located in the public rooms being generally concealed or recessed under the windows, while those in the bedrooms and minor rooms are usually exposed. All piping above the basement should preferably be concealed. In bedrooms and other small rooms a modulating control valve should be applied at the steam supply end of a radiator if a vacuum heating system is used. This permits the occupant readily to control temperature.

For small buildings the boiler plant may consist of cast iron sectional low-pressure steam boilers. The firebox type of boilers is better suited to medium-sized buildings. For larger buildings, and especially where high-pressure steam is required for cooking and laundry use, horizontal return tubular boilers enclosed in brickwork are frequently used.

Only in very large club buildings would automatic stokers be desirable; hand-firing is generally practiced. The fuel used in a club building is generally anthracite coal, and to promote economy the boiler plant should be adapted for the use of "buckwheat" coal. In many cases the blower type of "pinhole" grate, using No. 2 or No. 3 buckwheat coal, will be found the most economical. For large plants, especially where high-pressure boilers are used, bituminous coal will be found the most economical in use. Local conditions and local prices of coal will largely govern the selection of fuel. Oil burning is rarely chosen for economy alone in club buildings, unless the building is small and the engineer is, by the use of oil, freed from work in the boiler room so as to be of service elsewhere, or where the price of oil is low with the price of coal very high. Oil is a clean fuel, however, and promotes ease of operation of the boiler plant. In selecting the location of the boiler room, provision should be made for the replacement of the boiler units when they become worn out. Provision for ash removal may consist of a hand hoist, an electric hoist, a platform elevator

to the sidewalk, or, in very large buildings, a suction ash removal system may be advantageously provided.

The ventilating equipment for club buildings is perhaps its most important feature, for it goes far in making comfortable and enjoyable the occupancy of the entire structure. In general it will be found desirable to install a number of separate ventilating systems, that is, units for the different departments of the building. A typical arrangement or provision of ventilating units would be something on this order:

*Dining room.* A supply fan system, with an exhaust fan system; or else the air from the dining room may be exhausted through the kitchen without the use of a separate exhaust fan for the dining room. The latter plan has the advantage of preventing the escape of odors from the kitchen to the dining room and other portions of the building.

*Kitchen.* An exhaust fan system only, drawing air from the dining room; except that in very large kitchens an air supply system is also desirable.

*Lounge, library, billiard and card rooms.* These may well be provided with a ventilating system common to all, having a supply system and an exhaust system. The ventilation of the card room is perhaps the most important of all of the rooms in this group.

*Class rooms (if any, as in Y. M. C. A. buildings).* These, if frequently and largely used, should be provided with supply and air exhaust systems.

*Auditorium.* Where a large auditorium is included in the building, it should be provided with a complete ventilating system, including supply and exhaust fan units. If the auditorium is large, it should be ventilated much as is the modern theater, with an overhead supply of air and an exhaust through the floor or from the floor level. If a motion picture machine room is included, this should have a separate exhaust system of its own.

*Gymnasium, locker room, bowling alley and hand ball court.* These departments may be grouped, if adjacently located, into one ventilating system, having supply and exhaust fan units. The gymnasium, if it has windows on two or three sides, will hardly require ventilation if the window area equals 10 or 15 per cent of the floor area. In the case of some large buildings, a separate ventilating system (especially exhaust) may be desirable for the locker rooms, if these be extensive. Fresh air to the swimming pool room may well be supplied from the gymnasium ventilating unit. If an extensive equipment of showers is provided, a separate exhaust system is desirable for the shower rooms for proper ventilation.

*Toilets.* These rooms throughout the building should be grouped into a separate exhaust system of ventilation. In some cases the ventilation of the gymnasium locker rooms may be combined in this system. Ordinarily, only exhaust ventilation is pro-

vided from the toilet rooms, but to assure the ventilation thereof, louvered openings should be provided in the base or lower panel of each door.

*Boiler room.* Where this is an entirely inside room, and where the boiler plant is of a considerable size, ample ventilation must be provided. In any case, a liberal supply of air should be assured to the boiler room. In a large plant with a congested boiler room both supply and exhaust ventilation should be provided, with ducts to distribute the air to the hot areas of the boiler room, to render them bearable.

The amount of ventilation required in the different departments will be found to be equivalent to the number of air changes per hour indicated here:

*Dining rooms:* Supply 12 changes; exhaust the same number.

*Kitchens:* Exhaust 30 to 60 changes of air per hour, depending upon the size and number of windows in the kitchens. Where an air supply appears desirable, the quantity of air supplied should be equal to half that exhausted.

*General public rooms:* Supply 12 changes per hour, and exhaust the same number.

*Class rooms:* Eight changes supplied, and the same number exhausted.

*Auditorium:* Supply and exhaust 30 cubic feet of air per minute for each occupant.

*Picture machine room:* Exhaust 60 changes.

*Gymnasium:* Supply 12 changes per hour, if supply is required. Exhaust 12 changes per hour.

*Locker room:* Exhaust 20 changes per hour. Where a direct supply of air is required, supply 12 changes per hour.

*Bowling alley:* Supply 12 changes per hour in the section occupied by spectators and players, and exhaust the same number.

*Plunge:* Supply and exhaust 12 changes per hour.

*Shower room:* Supply 10 changes per hour; exhaust 15 changes per hour.

*Hand ball court:* Supply and exhaust 12 changes.

*Toilet rooms:* Exhaust 20 changes per hour.

*Boiler room:* Supply 60 changes per hour. Where air supply is required, provide 40 changes.

Each fresh air supply unit or system necessarily includes air heaters, fan, motor, usually air filters, and duct system. The motors installed are usually of the belted type. Where small units of fresh air supply are required, the ventilating units so generally used in school room ventilation may often be used.

Whether the various ventilating units shall be grouped together or be distributed locally throughout the building will depend largely upon the plan of the structure. Usually the expense of installation is less with local distribution, due to the saving in duct work. While this adds something to the labor of attendance involved, the attention required by these fans and motors is only slight and insignificant.

The heating of the club building and the ventilation of its public and service rooms are admitted necessities. The question is often raised whether the cooling of the public rooms in a club building during

hot weather should not be deemed a desirable, if not a necessary, feature. Such rooms to be cooled would include the dining rooms, lounge, library, billiard and card rooms, and the auditorium. Cooling systems are now applied generally to first class motion picture and vaudeville theaters, and the movement is extending to other theaters. An air-cooling installation involves but a slight elaboration of the ventilating plant itself, but it does require the installation of a refrigerating plant, the capacity of which must be approximately one ton for each 10 or 12 people occupying the spaces to be cooled. Of course factors other than occupancy enter into a determination of the capacity of the refrigerating plant required. The necessary additions to be made to the usual ventilating equipment include in the average instance a de-humidifier type of air washer and additional temperature and humidity control equipment.

Minor but essential features of a club building heating and ventilating equipment include the installation of a system of temperature regulation applied to all direct radiators in important rooms, and to the regulation of the temperature of the air supplied by the ventilating units. There is also to be included the installation of pipe covering on all steam piping, which should be 85 per cent magnesia covering on all high-pressure piping, and air cell covering on low-pressure piping, and air cell covering on low-pressure piping. The hot water supply for the building may be provided by means of hot water storage tanks in which the water is heated by means of steam coils. In small plants a low-pressure auxiliary heater or hot water tank heater may be provided for heating water in summer.

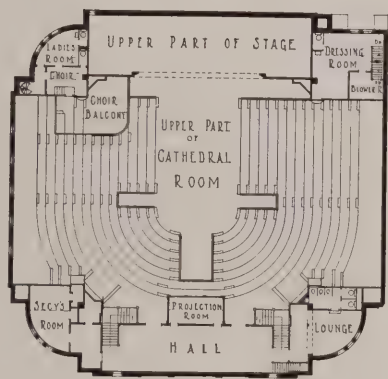
If a swimming pool is provided in the building, the equipment provided for the care of the water must be selected with extreme care. With a proper installation, carefully operated, the water in the pool may be kept at all times and under all condition so clear and pure as to meet all the requirements of the U. S. Public Health Service for drinking water, regardless of the extent to which the pool is used. A sterilizing equipment, of any one of several makes now on the market, is also essential. Water-heating equipment must be provided of such capacity that the pool may be filled with warm water within from 8 to 16 hours, provision also being made for adding five degrees to the temperature of the water each day during a period of four hours. With the equipment as here described, the cost of water in swimming pools is a negligible item because the water may be continuously used for periods of months at a time, the pool being emptied only occasionally for washing off the walls and the bottom of the pool.

Editorial Note: Other articles on subjects related to "Heating and Ventilating Club Buildings" have appeared in these ARCHITECTURAL FORUM Reference Numbers. November, 1923: "Hotel Power Plant and Refrigeration Equipment;" "The Planning and Equipment of Hotel Kitchens;" "Hotel Heating and Ventilating;" "Sanitation and Water Supply in Modern Hotels." June, 1925: "Ventilating and Cooling Motion Picture Theaters." These articles will be found helpful.

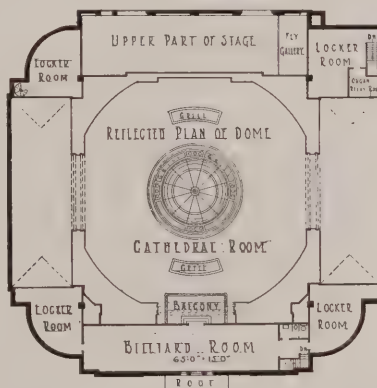




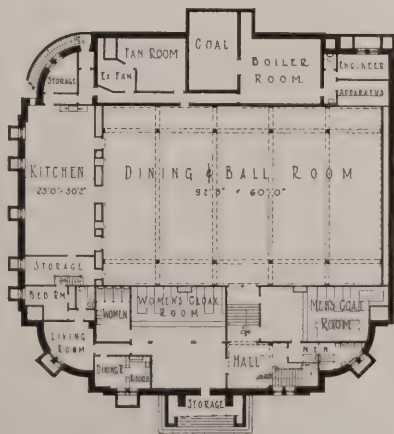
SCOTTISH RITE CATHEDRAL, DENVER  
WILLIAM N. BOWMAN COMPANY, ARCHITECTS



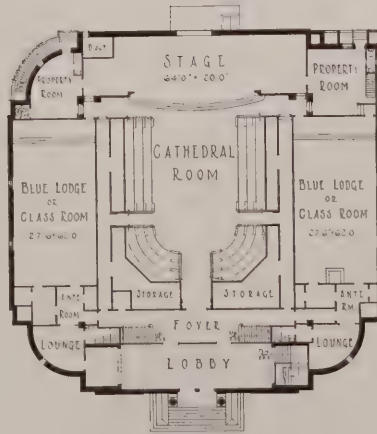
Gallery



Third Floor



Basement



First Floor

PLANS, SCOTTISH RITE CATHEDRAL, DENVER

## FORUM SPECIFICATION AND DATA SHEET—136

Scottish Rite Cathedral, Denver; William N. Bowman Company, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof.

## EXTERIOR WALLS:

Granite base, balance terra cotta.

## ROOF:

Tile.

## FLOORS:

Tile in lobby; maple in ballroom; concrete elsewhere.

## HEATING:

Steam; equipment for ventilation.

## PLUMBING:

Porcelain and enamel.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR WALL FINISH:

Paint.

## INTERIOR DECORATIVE TREATMENT:

Paint.

## APPROXIMATE CUBIC FOOTAGE:

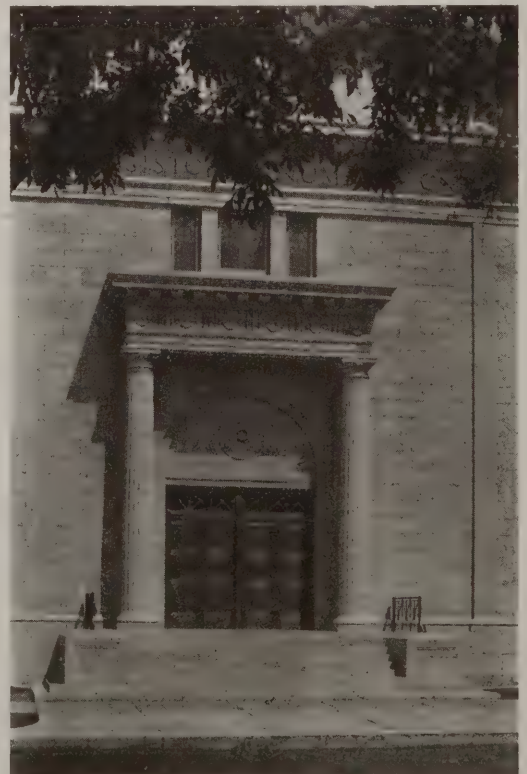
900,000.

HERE is a monumental building almost a perfect square in plan, designed for the use of one of the branches of the Masonic order. The chief feature of the building is the center cathedral room, which occupies the greater part of the first and second floors. The tiers of seats of this great auditorium extend up and back over classrooms on either side of the first floor. A billiard room and spacious stage form important details of the building. In the basement a large dining and ballroom occupies most of the floor space. Adjacent to this room are a kitchen and coat and toilet rooms for

men and women. Renaissance architecture of a rather Roman type is used for the exterior elevations, the wall surfaces of which are broken by a few small and carefully placed windows. The fine entrance portico, carried out in the Tuscan order, would have still greater dignity had it been possible to use a pair of monumental bronze doors the full height of this portico. The building as a whole is such a good example of carefully studied scale and proportion that it is unfortunate that it was impossible to make these entrance doors sufficiently high to be in scale with the highly dignified portico which enframes them.



Auditorium



The Entrance





MOUNT ROYAL CLUB, MONTREAL  
McKIM, MEAD & WHITE, ARCHITECTS  
HUTCHINSON & WOOD, ASSOCIATED ARCHITECTS



Second Floor



Basement



First Floor

## FORUM SPECIFICATION AND DATA SHEET—137

Mount Royal Club, Montreal

McKim, Mead &amp; White, Architects

HUTCHINSON &amp; WOOD, ASSOCIATED ARCHITECTS

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Fireproof.

## EXTERIOR MATERIALS:

Street facades and cornice, stone tooled; rear walls, limestone.

## ROOF:

Felt with asphalt topping, graveled surface. Flashings, copper.

## WINDOWS:

Double-hung, wood.

## FLOORS:

Service portion, granolithic. Main halls and

stairs, stone. Coat rooms and lavatories, white Italian marble. Main rooms, oak.

## INTERIOR WALL FINISH:

Hard finish plaster, except where wood paneling is used.

## DECORATIVE TREATMENT:

Except where wood paneling is used, all walls and ceilings are finished in lead and oil.

## APPROXIMATE CUBIC FOOTAGE:

470,000.

## COST PER CUBIC FOOT:

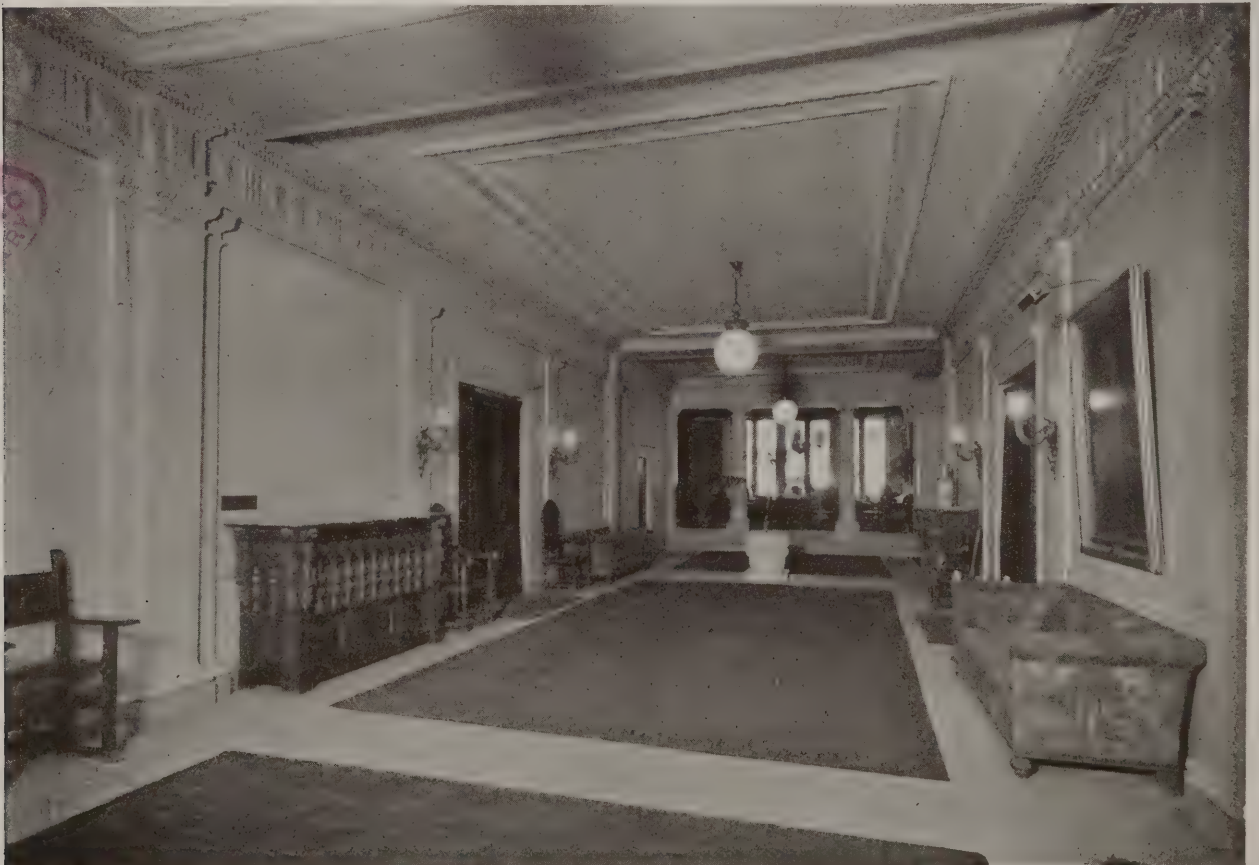
30 cents.

## YEAR OF COMPLETION:

1906.

DISPLAYING a dignity and refinement of design characteristic of the work of this famous old firm of architects, the Mount Royal Club is an excellent example of a small city club. Italian Renaissance details have been consistently used in the interior as well as on the exterior of this building. The front elevation shows a balanced design of center entrance door with imposing terrace steps, balanced on either side by four well proportioned win-

dows, and a certain architectural severity and restraint in design. The plan is as perfectly balanced as is the exterior elevation. A long center hall extends through the building with lounging and reception rooms, a main dining room and billiard room on either side. A small dining room for guests as well as serving pantry and bar are located at the rear of the first floor. The second floor contains game rooms, a reading room and additional billiard rooms.

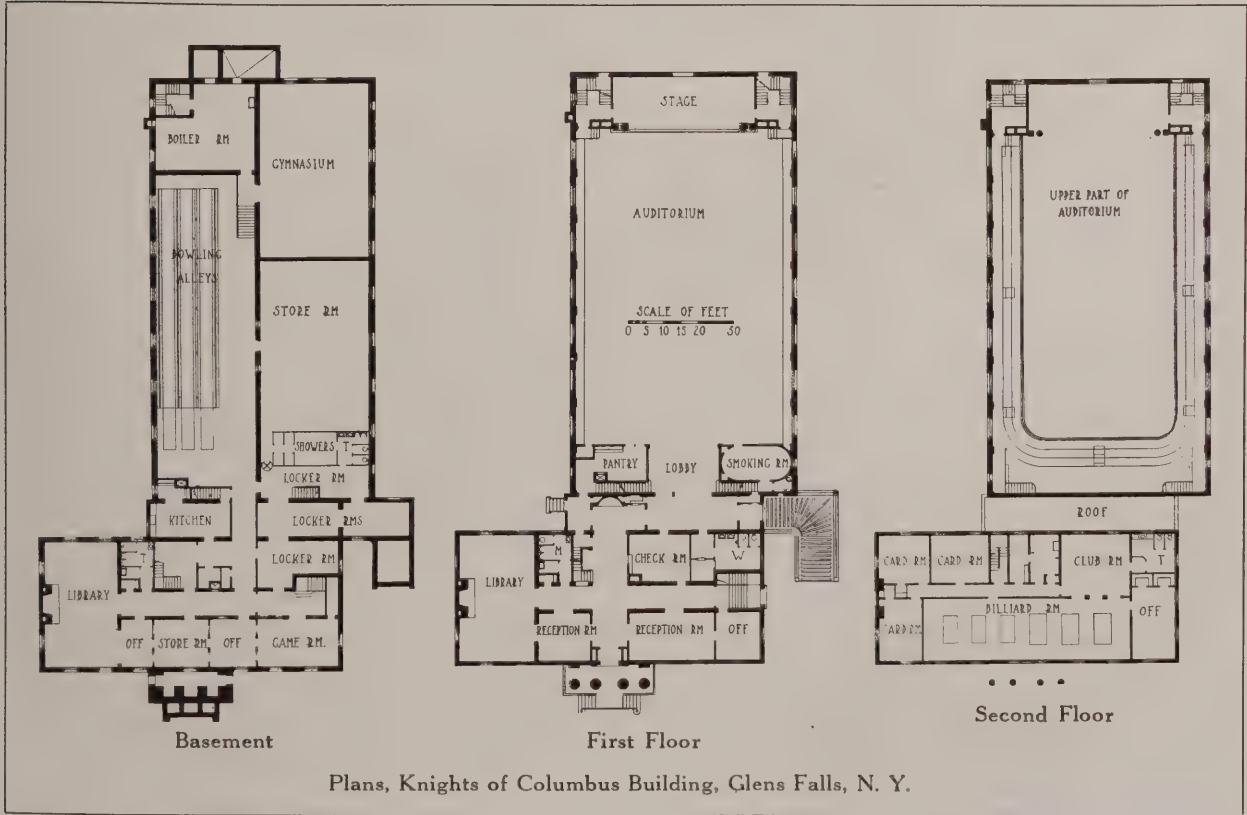


A View of the Entrance Lobby





KNIGHTS OF COLUMBUS BUILDING, GLENS FALLS, N. Y.  
THOMAS L. GLEASON, ARCHITECT; HENRY HORNHOSTLE, CONSULTING ARCHITECT



## FORUM SPECIFICATION AND DATA SHEET—138

Knights of Columbus Building, Glens Falls, N. Y.

Thomas L. Gleason, Architect; Henry Hornbostle, Consulting Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Semi-fireproof. Steel girders, wood joists.

## EXTERIOR MATERIALS:

Cast stone and tapestry brick.

## ROOF:

5-ply slag roof.

## FLOORS:

Basement, concrete and maple; upper floors, oak, maple, marble and tile.

## INTERIOR MILL WORK:

Chestnut.

## INTERIOR WALL FINISH:

Paint.

## INTERIOR DECORATIVE TREATMENT:

Stone and composition fireplaces, emblems and heraldic designs; niches treated architecturally in chestnut woodwork stained.

## APPROXIMATE CUBIC FOOTAGE:

480,000.

## APPROXIMATE COST PER CUBIC FOOT:

31 cents.

## SEATING CAPACITY, AUDITORIUM AND BALCONY:

2,500.

## YEAR OF COMPLETION:

1923.

RED brick with limestone trimmings are used to somewhat express the Colonial spirit in this club building at Glens Falls. Two stories in height, with a well lighted basement, it provides ample space for the various rooms required for a modern club building. The club proper occupies the building which faces the main street, located on the front part of the lot. At the rear and connected with the club house by a one-story corridor is a large auditorium or council chamber. This room, 105 feet in length, is provided with a large stage at one end and a shallow balcony around three sides. The location of the smoking room and serving pantry on either side of the wide entrance lobby leading into this hall is excellent, as is also the introduction of the wide cor-

ridor with exits at both ends, separating the club house proper from this auditorium building. The first floor of the club house shows a logical arrangement of well proportioned rooms designed for use as reception rooms, members' library, manager's office, toilets and dressing rooms for women as well as for members. On the second floor is a long pool room, containing six tables, and there are several card and game rooms and officers' rooms, serving pantry and storeroom. In the basement under both the club house and auditorium building are located bowling alleys, a large gymnasium, locker rooms and shower baths, a kitchen and serving pantry, a boys' library, and boys' game and play rooms. The building as a whole is unusually well designed and planned.



The Main Entrance

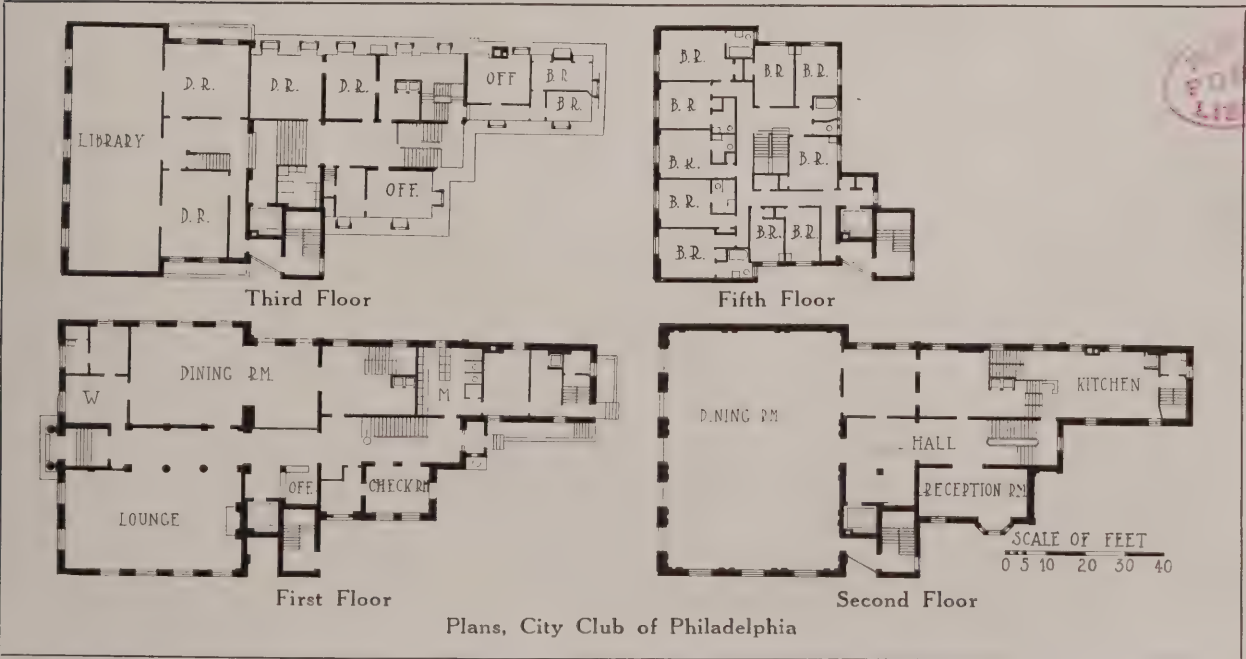


Approach to Auditorium





CITY CLUB OF PHILADELPHIA  
THE BALLINGER COMPANY, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—139

City Club of Philadelphia; The Ballinger Company, Architects

**OUTLINE SPECIFICATIONS****GENERAL TYPE OF CONSTRUCTION:**

Reinforced concrete.

**EXTERIOR MATERIALS:**

Face brick; white marble trim and entrance.

**ROOF:**

Felt and slag.

**WINDOWS:**

Wood, double-hung.

**FLOORS:**

Maple.

**HEATING:**

Down feed, single-pipe steam, with mechanically operated air removal.

**PLUMBING:**

Single-pipe system of drainage, with yoke type ventilation. Hot and cold water system.

**ELECTRICAL EQUIPMENT:**

Complete equipment for light, power and telephone systems. Knife switchboard.

**INTERIOR WALL FINISH:**

Oil paint.

**INTERIOR DECORATIVE FINISH:**

Oil paint.

**APPROXIMATE CUBIC FOOTAGE:**

312,867.

**COST PER CUBIC FOOT:**

32 cents.

**YEAR OF COMPLETION:**

1918.



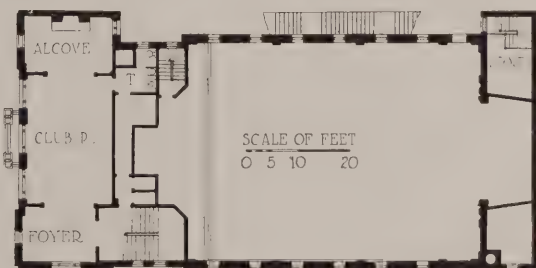
The Entrance

IN keeping with the revolutionary background of Philadelphia, this City Club house shows in its design a simple and straightforward adaptation of the Colonial style. The five stories of the building are successfully indicated by the series of well proportioned windows, those of the main floor indicating by their size and design the large dining room which is the chief feature of the club. The entrance doorway, executed in limestone, is particularly successful, not only in the Colonial feeling of its design but also in its scale, which is in perfect relation to the rest of the facade. The rear part of the structure, originally a private house, now contains the service department of the building and additional reception and private dining rooms. On the first or entrance floor is located the women's department, which includes two connecting dining rooms, a reception room, retiring room, and toilet.

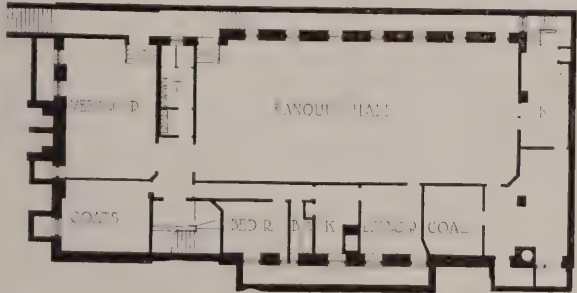




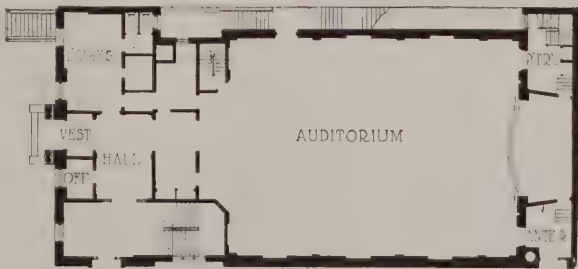
RIDGEWOOD MASONIC TEMPLE, BROOKLYN  
KOCH & WAGNER, ARCHITECTS



Second Floor



Basement



First Floor

Plans, Ridgewood Masonic Temple

## FORUM SPECIFICATION AND DATA SHEET—140

Ridgewood Masonic Temple, Brooklyn; Koch &amp; Wagner, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Semi-fireproof; brick walls.

## EXTERIOR MATERIALS:

Brick, limestone and terra cotta.

## ROOF:

Tar and slag.

## WINDOWS:

Wood frames and sash.

## FLOORS:

Terrazzo, maple and cement.

## HEATING:

Steam.

## PLUMBING:

Cast iron pipe; galvanized pipe for water lines.

## INTERIOR MILL WORK:

White pine, enameled; oak, filled, stained, and varnished.

## INTERIOR WALL FINISH:

Plaster. Marble in vestibule and for stairs.

## DECORATIVE TREATMENT:

Stair, halls and lobby in oil paint. Lodge room and auditorium and banquet hall in plaster.

## APPROXIMATE CUBIC FOOTAGE:

239,000.

## COST PER CUBIC FOOT:

68 cents.

## DATE OF COMPLETION:

July, 1921.

THIS four-story building, faced with limestone and buff brick, shows a monumental design embodying details in the Renaissance style. Three tall arched windows form the chief architectural feature of the front facade, providing light for a large club room on the second floor and for another large room above on the third floor. The plan shows an auditorium on the first or ground floor, which extends up two stories in height, occupying the greater part of the building. This large hall is provided with a stage and adjacent pantry and anteroom. The front

part of the first floor is cut up into a number of small rooms for offices, reception and fraternal uses. A fireproof stair hall occupies one corner of the building. In the basement are located a large banquet hall, meeting room, coat room, kitchen and boiler room. On the two upper floors are additional club and ritual rooms. This building represents the type of Masonic temple generally found in the smaller cities and suburban districts throughout the country. It adequately suggests and expresses the fraternal purposes for which the structure was built.

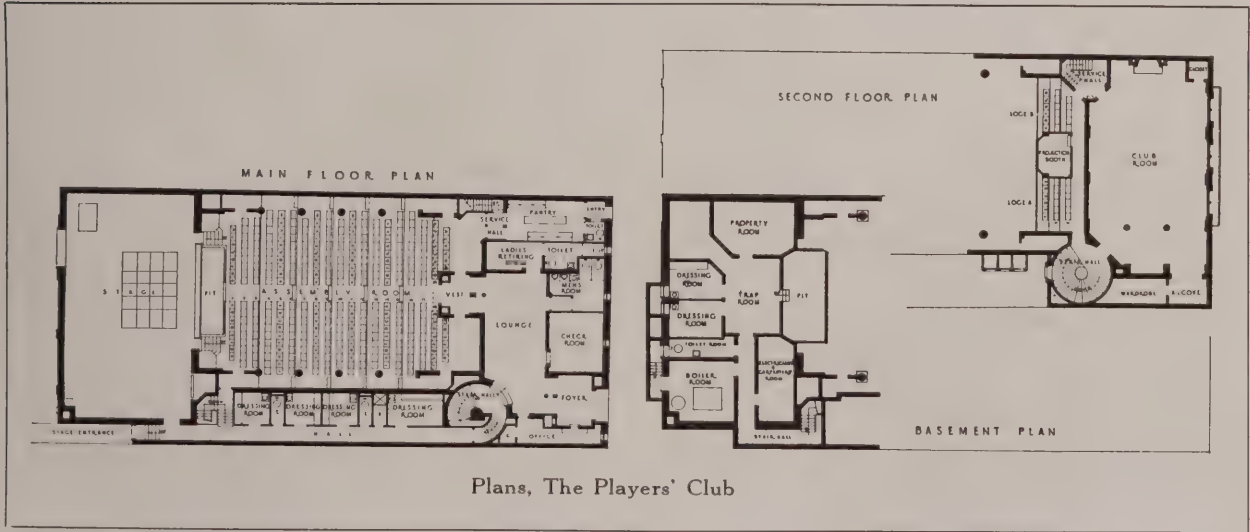


The Lodge Room

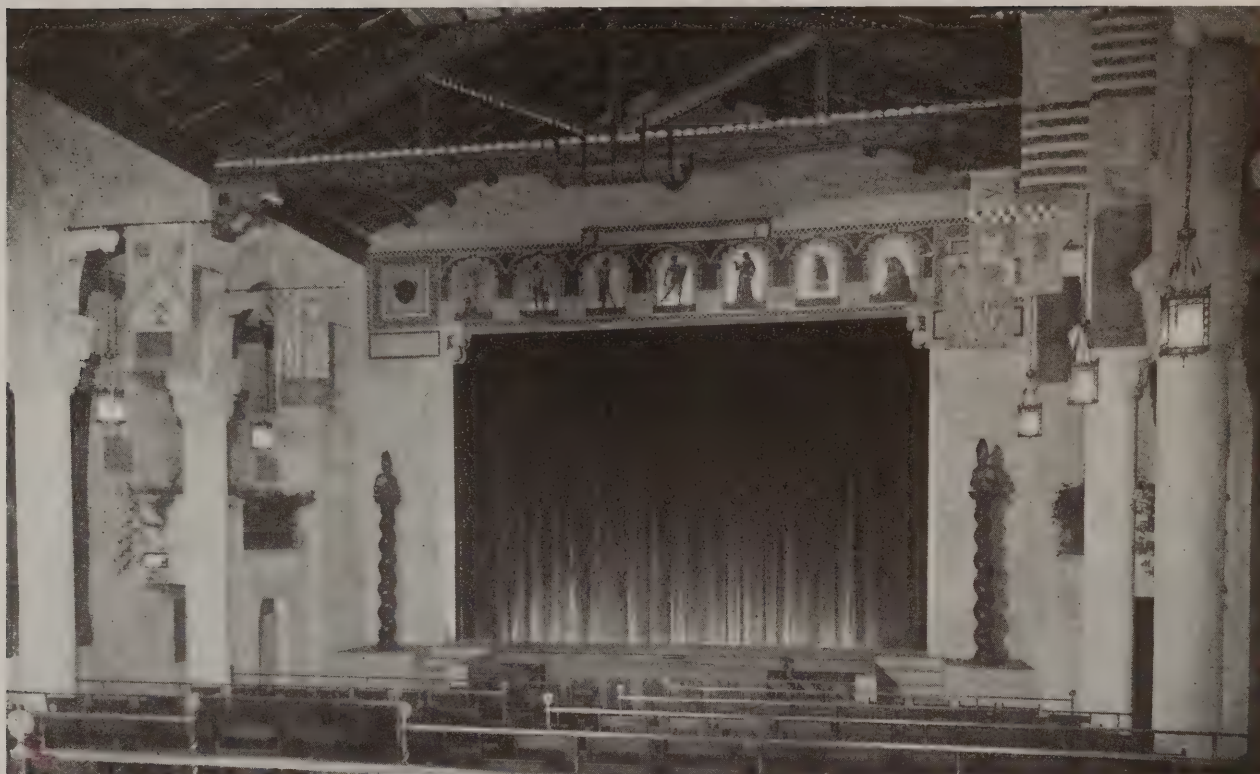




THE PLAYERS' CLUB, DETROIT  
SMITH, HINCHMAN & GRYLLS, ARCHITECTS







ONE of the most unique and charming club houses recently completed is "The Players," in Detroit. In style the design suggests both on the exterior and interior some of the examples of early Renaissance architecture in Florence. It possesses an individuality few structures of similar kind may claim and an element of truth unfortunately lacking in most modern architecture. It is individualistic because of its design and decorative scheme, and truthful because of the way the building materials

and the structural materials which support the work have been largely exposed and made beautiful. In planning the building economy as well as artistic effect was essential to the successful solution of the problem. As the interiors were studied by the architects, interesting and pleasing effects developed in the most natural sort of way. Materials originally looked upon as cheap and common were so used that they possess greater interest than would have been possible if treated in a much more expensive manner.



Club Room



At Top, The Auditorium

Entrance

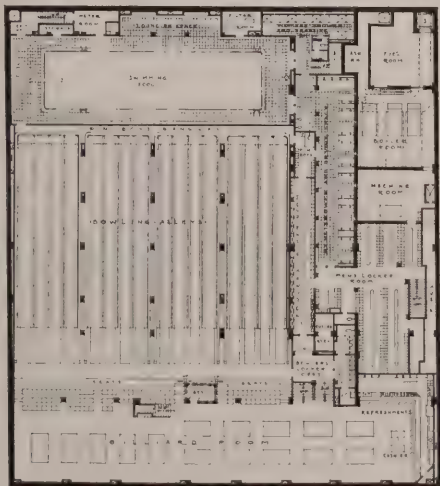




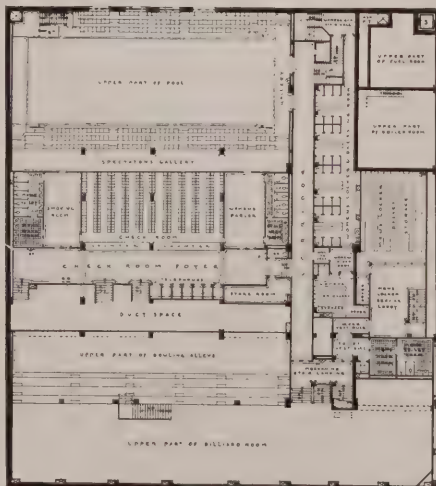
WEST SIDE KNIGHTS OF COLUMBUS CLUB AND COMMUNITY CENTER, CHICAGO  
SHATTUCK & LAYER, ARCHITECTS

GOTHIC details executed in limestone and terracotta are combined with dark red brick in this building for the Knights of Columbus on the West Side of Chicago. There is a certain dignity obtained by the use of the large Gothic windows which emphasize and indicate the arrangement of the club rooms within. At one end of the front elevation there is a tremendously wide vestibule, protected by swinging glass doors. This vestibule leads into a wide

foyer, from which the main ballroom is reached. This ballroom is so located that the gymnasium beyond it may be used either as a stage for theatrical performances or as an additional ballroom. This unusual and excellent arrangement indicates how much thought and care were spent upon the planning of this Knights of Columbus community center, which combines a fully equipped gymnasium with club rooms, recreation rooms and several council rooms.



The Basement Floor



Basement Mezzanine

FORUM SPECIFICATION AND DATA SHEET—141

West Side Knights of Columbus Building, Chicago; Shattuck & Layer, Architects

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Brick walls; reinforced concrete framing.

EXTERIOR WALLS:

Light brown brick; terra cotta trim.

ROOF:

Composition on concrete slabs.

WINDOWS:

Metal.

FLOORS:

Terrazzo and wood.

HEATING:

Steam.

PLUMBING:

Enameled fixtures, sewage ejectors, filters and pumps.

ELECTRICAL EQUIPMENT:

Lighting and power for motors; ventilation fans and air washers.

INTERIOR MILL WORK:

Red oak stained silver gray.

INTERIOR DECORATIVE TREATMENT:

Painted plaster.

APPROXIMATE CUBIC FOOTAGE:

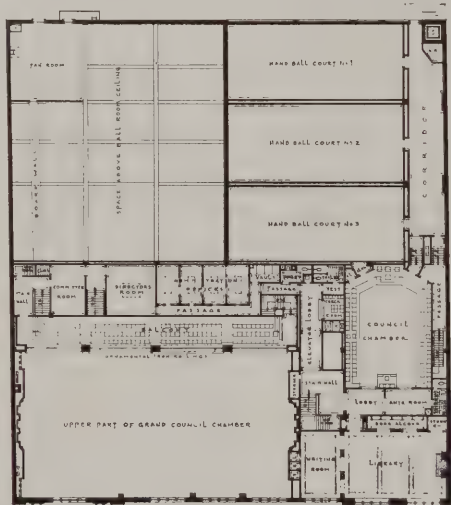
1,681,375.

COST PER CUBIC FOOT:

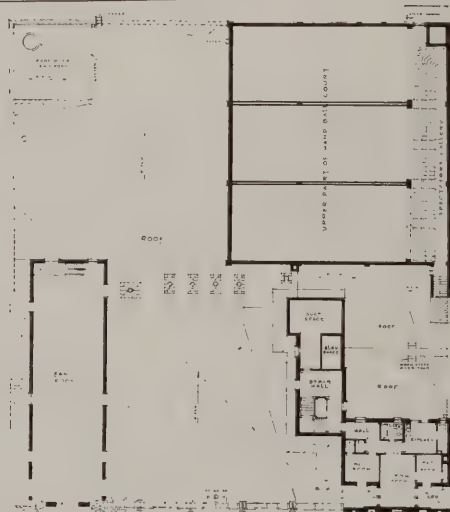
44 1/4 cents.

DATE OF COMPLETION:

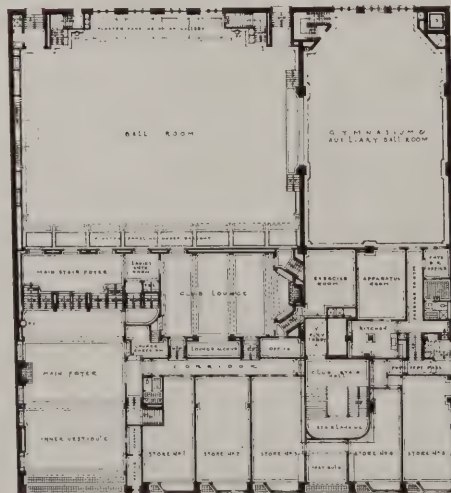
January 1, 1924.



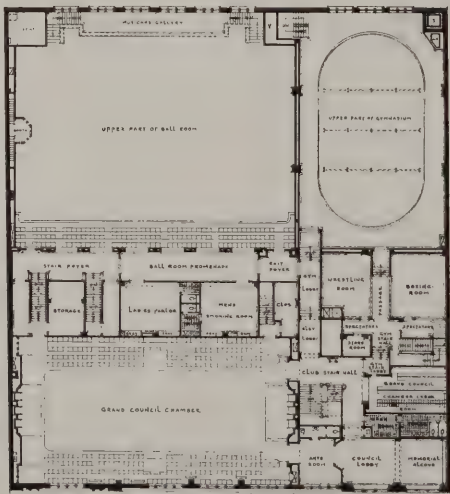
Third Floor



Fourth Floor and Roof



First Floor



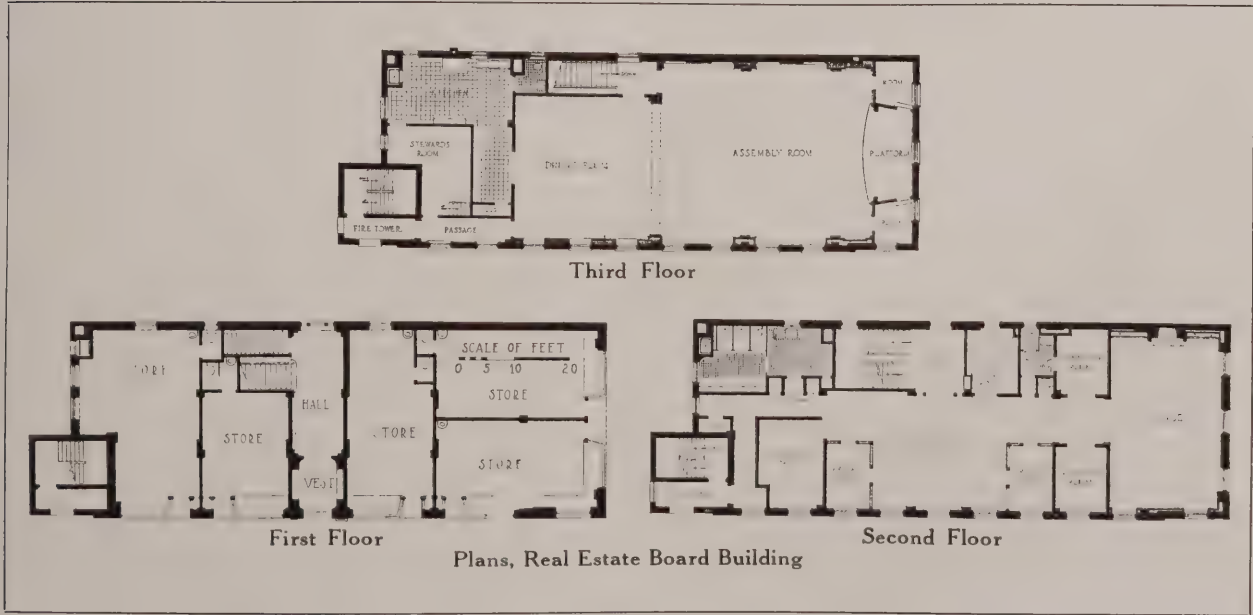
Second Floor

Plans, Knights of Columbus Club and Community Center, Chicago  
SHATTUCK & LAYER, ARCHITECTS





REAL ESTATE BOARD BUILDING, PHILADELPHIA  
THE BALLINGER COMPANY, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—142

## Real Estate Board Building, Philadelphia

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Reinforced concrete.

## EXTERIOR MATERIALS:

Face brick, limestone trim and entrance.

## ROOF:

Felt and slag.

## WINDOWS:

Wood, double hung.

## FLOORS:

Maple.

## HEATING:

Up-feed, two-pipe gravity steam.

## PLUMBING:

Single-pipe system of drainage with yoke type ventilation. Hot and cold water system.

## ELECTRICAL EQUIPMENT

Complete system for light, power and telephones.

## INTERIOR WALL FINISH:

Oil paint.

## INTERIOR DECORATIVE TREATMENT:

Oil paint.

## APPROXIMATE CUBIC FOOTAGE OF BUILDING:

206,800.

## COST PER CUBIC FOOT:

51.7 cents.

## YEAR OF COMPLETION:

1923.

ALTHOUGH called a Board Building, this excellent example of modern Colonial design is in reality a small club house devoted to the use of the Real Estate Association of Philadelphia. In order to cover the carrying costs of this building, such as taxes, insurance, etc., the basement floor is divided into several shops, the windows of which are so logically located that the apparent structural strength of the building as a whole is in no way impaired. Strong brick piers are carried down to the foundation level both at the corners of the structure and between the shop windows. The main entrance to the club rooms above is successfully indicated by a dignified ornamental doorway in the middle of the principal facade. This doorway leads into a hall

which connects at the rear with a broad stairway leading to the floors above. The plans show a general office, committee rooms, private offices and a lounge on the second floor. A large assembly and dining room together with a kitchen and serving pantry occupy the third floor. This is an excellent plan for a small club house devoted to a particular business and used principally for lunching and dining. It is unfortunate that the photographs of the interior were taken just before or after some particular ceremony or occasion, as the potted palms in no way add to the simple but straightforward architectural design of the interiors. How truly is it to be wished that the general public might acquire some appreciation of the beauty of architectural interiors!



The Lounge



Committee Room



# Planning and Construction of Swimming Pools

By JAMES O. BETELLE

IN the inclusion of a swimming pool in the plans for any Y. M. C. A. or club building, a committee should recognize at the outset that it is contemplating an expensive feature both as to installation cost and to maintenance thereafter. Whatever architectural compromises or structural economies may be practiced elsewhere, there is no possible compromise on the structural necessities of a swimming pool. This, then, will be the first as well as the last consideration of the inclusion of a swimming pool: definite recognition of its cost, from which there can be no departure in the way of economy.

In the first discussion of the plans it should be decided whether the pool is to be placed in the basement of the building or at or near the top of the structure. The basement location is most frequent, though the top location is favored for city clubs because it provides more light and air, and because the basement space is frequently more needed for the heating plant and other operating necessities, and for the special equipment required by the pool. In the top location it is obvious that amply adequate provision must be made to take care of the great weight in the framing of the sub-structure; otherwise, the actual construction of the pool itself is virtually the same in either location. It is an unfortunate piece of planning when the gymnasium (if any) and the swimming pool are separated by so many floors of the building as to necessitate use of the elevator between the two, and such an arrangement should be sedulously avoided. It is, obviously, impossible to generalize as to the top or basement location of a swimming pool in a club building, because the nature of the site and the total area of the site in any given instance would greatly affect the decision as to where the pool should be situated.

Generalizations, too, are difficult in the matter of planning the locker and dressing room arrangements

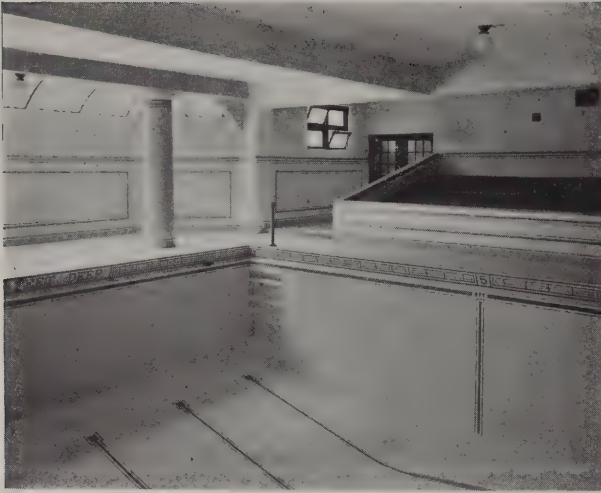
connected with the pool, because they vary according to differing requirements in Y. M. C. A. buildings and in clubs. The architect should, in every case, familiarize himself in advance with whatever rules and regulations the house committee may have with regard to members' use of the pool, and arrange his accommodations to meet requirements.

An example of such planning is seen in the usual arrangement found in the swimming pools in Y. W. C. A. houses, the so-called "wet and dry aisle" scheme. Bathers enter a dry aisle from which the dressing compartments open. Ready for the pool, the bathers leave the compartments and step into an aisle which is the wet aisle, since it is also the aisle into which bathers emerge from the pool. We all know how a wet tile floor tracks dirt from shoes, and as a floor in this condition is unpleasant for either shod or unshod feet, this two-aisle system commends itself as being exceedingly practical. The showers, obviously, would be accessible from the wet aisle. Plans of the accommodations adjoining swimming pools should be very carefully studied for practical convenience, minimizing of confusion, and segregation of bathers entering clothed and bathers coming from the water. Non-bathers, the audience for instance, of aquatic sports, should be accommodated in a gallery well above the pool, with entrances and exits separate from those to the pool itself. Nothing but inconvenience to bathers and audience alike results from any other possible arrangement.

In designing the room which contains the pool, the most difficult problem, and that most to be reckoned with, has to do with condensation. Second, but not so vital, is the problem of acoustics. Condensation is minimized as much as possible by heating the in-flowing water in the pool as closely as can be managed to the temperature of the room, but even when this is done there is still enough condensation to



Swimming Pool, Missouri Athletic Association, St. Louis  
William B. Ittner, Architect



Swimming Pool, Y. M. C. A., Trenton, N. J.  
Note markings on sides and bottom of pool

make the use of plaster or corrodible metal more than unwise. Plaster will invariably sweat and disintegrate, and metal will rust, so that furred plaster ceilings on metal lath are out of the question entirely. The walls should be of encaustic or porcelain tile or, where economy is necessary, of brick, and the best ceiling material has been found to be acoustic tile. It is desirable to reduce the noise in a swimming pool as much as possible, and with the prevalence of non-absorbent surfaces the noise is likely to be considerable, in spite of the architect's best efforts. As a further provision against condensation, it is well to thoroughly insulate the ceiling, and to provide air space in the wall construction. The provision of

ventilation is aided by natural means in swimming pools located in the upper portions of buildings, and the best artificial means devised by ventilating engineers are necessary in basement swimming pools.

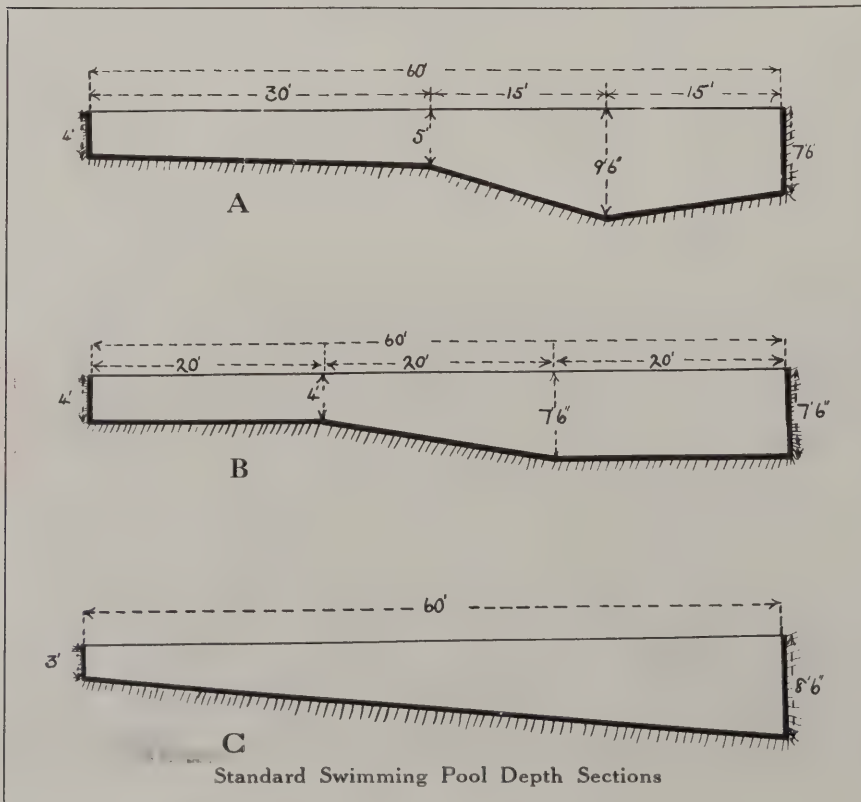
Intercollegiate rules for swimming contests establish the minimum dimensions as 20 x 60 feet, which have been adopted as those of the standard Y. M. C. A. pool. The dimensions of the "Championship" pool, customary in athletic clubs, are 25 x 75 feet. Multiples of 5 feet of width and 15 feet of length have been found convenient to figure, and typical dimensions, therefore, are:

20 x 60	20 x 75
25 x 60	25 x 75
30 x 60	30 x 75

Depths have been ruled to be not less than 3 feet at the shallow end nor less than 7 feet at the deep end. For diving contests the deep end of the pool is usually 8 or 8½ feet, with a maximum of 10 feet. Several types of depth graduation are used, the most popular being the so-called "spoon-shaped" bottom, (A), gradually sloping to the middle of the total length, beyond which point it is sloped both ways to a maximum depth 15 feet from the deep end.

Where a pool is likely to be used by persons unable to swim, as well as by swimmers, division into three parts is often made, the shallow third being 4 feet deep, the deep third 7 feet, 6 inches, and the center third graded between the two end sections (B). These depths may be varied to suit requirements, while (C) shows the type in which the bottom pitches unbrokenly from 3 feet at the shallow end to 8 feet, 6 inches at the deep end of the pool.

The construction of the swimming pool is likely to be of reinforced concrete or of steel, with thorough waterproofing. The pool built in a heavy, riveted steel box is seldom used except for elevated locations, unless there is infiltration from outside to be provided against. The factor of safety in the steel shell for a swimming pool placed in an upper story of a building is found in its protection from developing cracks which might result from any slight settling of the building. Whether the shell or main casing of the pool is of heavy steel, concrete lined, or of reinforced concrete, its section will consist, from this shell out, of (1) a five-ply membrane waterproofing of felt and asphalt; (2) a brick wall, slightly battered from 4 inches at the top; (3) tile lining,—the floor of the pool is usually of hexagon





or small-unit white floor tiling. It must be remembered that the most important of these items is the membrane waterproofing, in which the best asphalt, *and not pitch* should be used. It has been found that pitch tends to work out, even through the brick lining and the finished tile, thus weakening the fabric.

Manufacturers of tile have added to their stock pieces all the necessary copings, scum gutters, coves, ladder pockets and other special pieces for the finish of swimming pools. Of these the scum gutter is the most important, not only taking the place of the old fashioned life-line, but providing for the necessary disposal of the inevitable accumulation of surface matter on the water. These gutters, with drains piped through the shell of the pool structure, are exactly at the water level, and if the incoming water is forced into the pool at a sufficient pressure, the resulting ripple will float the surface scum over lip of the gutter, thus keeping the water's surface fresh.

In laying out the tilework for standard athletic swimming pools, certain markings are usually required, and are indicated by colored tile. There are the distance and depth numerals, shown by figures at 5-foot intervals; swimming lanes 5 feet wide, marked by lines 3 inches wide, extending along the bottom; safety lines extending across the pool and up the sides at 5-foot intervals; at 5 feet from the ends similar lines, called turning lines, which are extended across bottom and sides. In addition to these are jackknife limits, which are 3-inch wide lines 6 feet from the end of the diving board, crossing the curb and extending a short distance below water level as required by rules for the assistance of contest judges. The official diving board is 12 to 13 feet long by 20 inches wide, with its end projecting not more than 2 feet over the pool, and the fulcrum placed one-third of the length from the free end. The height is not less than  $2\frac{1}{2}$  feet or more than 4 feet above the surface of the water. Where swimming lessons are given, a wire cable to support belts is run the length of the pool, and provision should be made for anchoring this cable near the ceiling so belts supporting beginners in swimming will run along easily.

All spaces about the pool should be tiled, and it has been found that the walk or gangway at the sides should not be less than 3 feet or  $4\frac{1}{2}$  feet wide, and at least 6 feet at the ends. Special non-slip coping tile is made, providing a slight, even slope up from the floor of the room,—an improvement over the old type, which was abrupt, like a curb, and frequently tripped bathers about to enter or leave the pool.

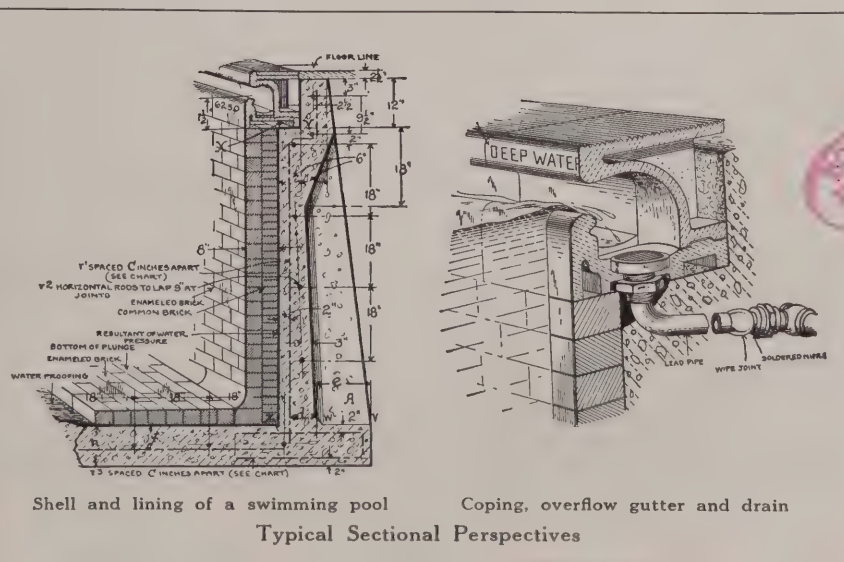
The water in the swimming pool goes through a



Swimming Pool at Columbus, O.  
Richards, McCarty & Bulford, Architects

cycle of five operations: (1) it is sterilized, (2) filtered, (3) enters pool, (4) circulates and (5) leaves pool,—and this cycle is continuous for a period of from three to four months. It is claimed that the successive sterilization and filtering makes the water purer at the end of this time than when first used. Various methods of sterilization are employed, and there are required special study and conference with local boards of health, which boards usually inspect all swimming pools in their jurisdiction at frequent intervals. Expert opinion differs on the merits of the types of sterilization employed, the three in general use being liquid chlorine, ozone, and ultra-violet ray. Great care should always be given to this detail.

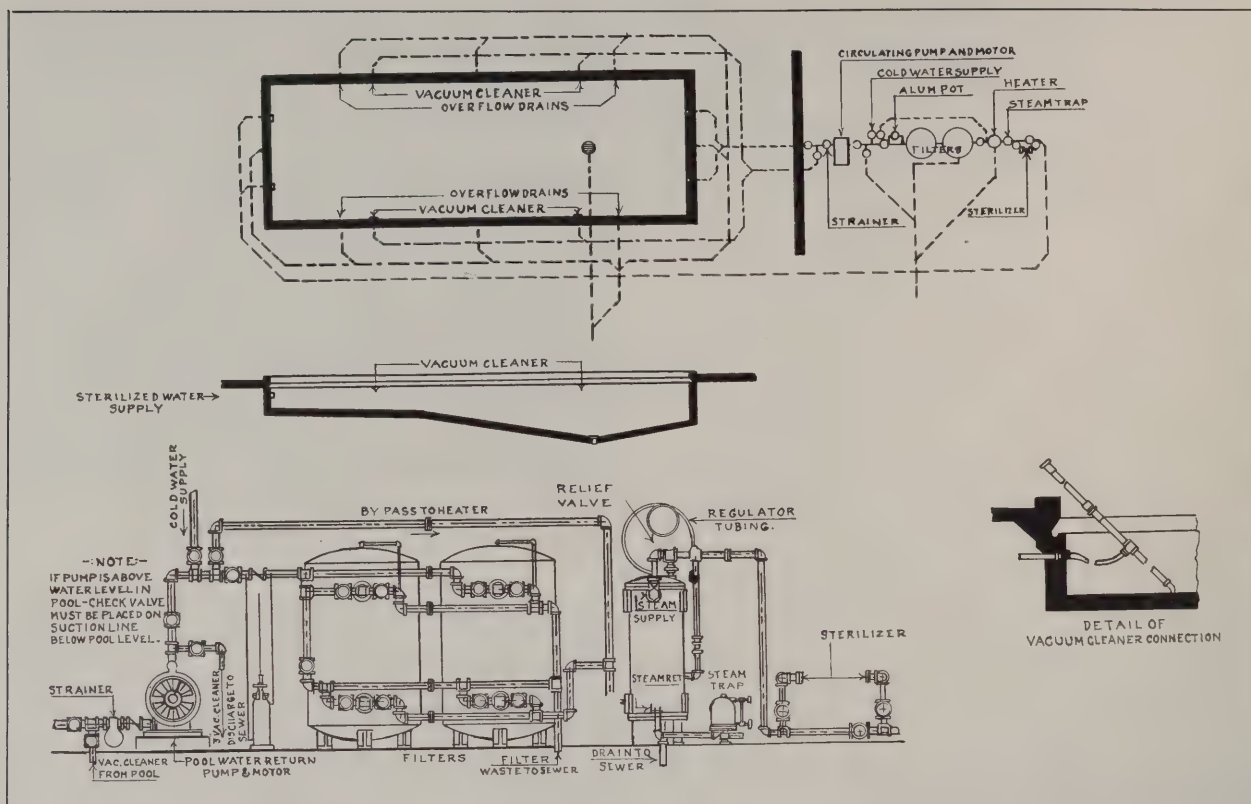
The water should be heated as nearly as possible to the exact temperature of the room in which the pool is located, in order to minimize condensation on walls and ceiling and to avoid humidity. Ventilation will help in this, of course, but a certain amount of condensation is bound to occur, and careful consideration of the factors producing it can only help to reduce it to a minimum. It is very desirable to



Shell and lining of a swimming pool

Coping, overflow gutter and drain

Typical Sectional Perspectives



Typical Swimming Pool Layout

force the water into the pool, as already said, with sufficient pressure to create a ripple that will dispose of surface scum through the scum gutters. Sediment at the bottom of the pool is generally removed by means of a long-handled vacuum cleaner.

Certain architects whose practice has called for the frequent installation of swimming pools have devoted a great deal of study to their construction and operation; much, also, has been accomplished by the manufacturers of tile and other materials, and by the manufacturers of heating, filtering and sterilizing

apparatus. Their booklets, diagrams, data and blue prints are always available to the architect, and with the experience of the profession as a guide, and scrupulous care in specification and supervision, the construction of a swimming pool has become as much a matter of standard practice as the design of a double-hung window, presenting no difficulties.

EDITORIAL NOTE: An article on "Swimming Pools for Country Clubs" appeared in THE ARCHITECTURAL FORUM Golf and Country Club Reference Number, March, 1925.



Swimming Pool, Penn Athletic Club, Philadelphia  
Zantzing, Borie & Medary, Architects



# Gymnasiums and Locker Rooms

By FREDERICK L. ACKERMAN

UNDER such a heading one might expect, in an architectural publication, an exposition of what had recently been said and done with reference to these two features in structures given over in part or in total to physical training or athletic activities. Glancing through the files of recent years, that is precisely what one finds. And one finds a mass of dogmatic assertions concerning shape, length, width, height, spacing, lighting, heating and ventilation. Things are right because they are done. So one may be pardoned for approaching this subject from a somewhat different point of view. This could hardly fail to be helpful.

It is ordinarily advantageous to take at least a look at the genetic account of any subject dealt with. In this case it need be no more than a peep. For the Baths of Caracalla and the other Romans do not greatly concern us and need not detain the argument; we are dealing with modern American institutions—their gymnasiums and their locker rooms.

The modern American gymnasium is a direct lineal descendant of the armory and the assembly hall; it bears the distinct and indelible marks of its parentage. The locker room has for its forebears the basements and waste spaces of buildings containing gymnasiums and other features, and it also carries the marks of its line of architectural descent. The truth of this may be tested quite easily; examine the gymnasiums attached to our schools, colleges and universities. These older structures had to serve in a variety of ways,—for military training, senior proms, presidential addresses and the physical training or recreation of the student body. It was out of the necessity of serving a set of widely differing functions that a type of structure, both in respect to plan and general architectural character, was created. A type once created is durable; it long persists against changing needs. A structure designed for the playing of "mumble-typeg," to be "in character," must needs expose the characteristic features of this type,—the long span roof along with the armorial features.

But times have changed; the drift toward special-

ization and the demand for diversity have touched the sphere of recreation and physical training as it has the making of automobiles. In place of a relatively limited demand for facilities for calisthenics, apparatus work and a game or two for those so inclined, the demand now centers in the provision of facilities for a long list of activities and games that lend themselves to casual play and contests for supremacy. Intra-mural or inter-college contests in the universities, contests between groups such as athletic clubs, Y. M. C. A's., etc., require special provisions in the enveloping structure. So that a program for a modern gymnasium, formulated to satisfy the present demand, would contain in addition to provisions for calisthenics, apparatus work, running and basket ball, a long list of required facilities providing for boxing, fencing, wrestling, rowing (machines and tank), vaulting, jumping, hand ball, four-wall hand ball, squash, indoor tennis, indoor soccer, etc. This statement of the case is not to suggest that the several last named activities found no place in the earlier scheme of things. These games were played, but for the most part under the handicap of temporary or inadequate quarters, a handicap often fatal.

The idea that the modern gymnasium shall serve the maximum number through the provision of facilities for diversified activities renders the old type of structures inadequate and inefficient. This idea, at the same time, constitutes the new program and creates the problem of the modern structure. Serving the maximum number under conditions set by the demand for

diversified activities constitutes the core of the modern gymnasium problem. The area and volume of requirements for different sports vary over an extremely wide range. The relative floor area required for players of various indoor athletic games is indicated in the table on page 190.

Inasmuch as many of these activities require permanent, fixed arrangements of floor, walls, ceiling and lighting, choice as between one and another becomes a matter of the utmost importance in setting up a program for a gymnasium. Obviously, indoor tennis, which requires 1800 square feet per



Combination Auditorium and Gymnasium in Y. M. C. A. building. Steel shutter can be rolled down before platform  
Louis E. Jallade, Architect





Running Track, Plainfield, N. J., Y. M. C. A.

Note single-control windows connected by one gear; space between floor and rail to permit hand-balls to roll out, and screen to prevent runners from falling from the track to the floor

Louis E. Jallade, Architect

player, cannot be provided for all; on the other hand, unlimited provision for calisthenics, requiring 50 square feet, will hardly satisfy the modern demand. So the preparation of a program is, as ever, a matter of compromise between budget and demand. In Y. M. and Y. W. C. A. structures, built ordinarily on expensive land near the centers of things, it is ever a case of extreme compromise. Diversified facilities are not to be had within the budgets usually

established. But in the case of educational institutions generally, it would seem that provision for a fairly wide range of facilities is very largely a matter of choice and decision,—that is to say, point of view in establishing the program. There can be no doubt but that with the same cubic feet of structure, accommodation could be had for a broader program.

#### Floor Areas Required for Different Sports\*

Activity	Sq. Foot Per Player
1. Calisthenics .....	50
2. Apparatus exercises .....	50
3. Running (indoor track) .....	50
4. Volley ball .....	75
5. Rowing (machines) .....	80
5a. Water polo .....	130
6. Basket ball .....	175
7. Fives .....	195
8. Fencing .....	200
9. Wrestling .....	200
10. Boxing .....	200
11. Indoor baseball .....	210
12. Handball (4-wall) .....	270
13. Squash tennis .....	290
14. Squash racquets .....	300
15. Handball (1-wall) .....	300
16. Swimming races .....	375
17. Jumping, vaulting, etc. ....	400
18. Badminton .....	405
19. Paddle tennis .....	415
20. Racquets .....	500
21. Hockey (artificial ice rink) .....	1,000
22. Court tennis .....	1,050
23. Indoor tennis .....	1,800
24. Indoor football .....	1,800
25. Indoor polo .....	5,000
26. Pelota (doubles) .....	7,200
27. Pelota (singles) .....	14,400

\*See article by Gavin Hadden in *The American Physical Education Review*, September, 1924.

The provision for natural lighting in the older structures was presumably, judging from the con-



Gymnasium, Y. M. C. A., Flushing, N. Y.

Frederick L. Ackerman, Architect; Alexander B. Trowbridge, Advisory Architect



ditions, a matter of guesswork pure and simple. Certain activities such as calisthenics, apparatus work, running, rowing, etc., present no serious problem in this respect; but the lighting of games for which a rapidly moving ball is used is a different matter. These games should be lighted from above; in some cases the sky zone must be limited to a certain portion of the roof area and placed in a definite relation to the side walls. In other cases the maximum sky zone must be provided and the glass set at definite limiting angles to the horizon. In all cases of top lighting a system of ventilighters must be used; otherwise the intensity of direct sunlight in relation to shade and shadow areas on walls and floor will be so great as to make play almost impossible. While some small amount of data is available on the lighting of such games, it is fair to say that the natural and artificial lighting of indoor games of this latter sort is as yet an unexplored field. At least I know of no data based upon a thoroughgoing scientific study which may be safely used to guide the designing of rooms to be used for games played with a rapidly moving ball, as many games are played.

But with accurate data available covering the problem of adequate lighting of such spaces, a perplexing problem, in view of the tenacious quality of our preconceptions, still remains in the case of structures built in restricted areas where many stories are required. For such structures artificial lighting would seem to be a necessity. That being the case, windows would have to be abandoned and mechanical ventilation resorted to. While this suggestion may seem revolutionary, it may be said that for such cases in this latitude a system of artificial illumina-



Corner of Gymnasium, Penn Athletic Club, Philadelphia  
Zantzinger, Borie & Medary, Architects

tion can be made superior to natural top lighting. Artificial illumination may be controlled and maintained at a uniform intensity. During the winter months natural top lighting is adequate only during a very brief time at mid-day. The cost of artificial illumination plus ventilation is definitely less than the cost of heating and ventilating top lighted spaces. This is not to argue the case of walls *versus* windows on psychological or grounds other than those stated. In point of fact, the argument has nothing



Gymnasium, Y. M. C. A., Greenwich, Conn.



to do with that question. The question is merely:—what had best be done where adequate top lighting is required but cannot be had? On the face of it, it looks as if artificial lighting should be used, and it should be definitely and plainly acknowledged in the program.

Although much has been written about the ventilation of gymnasiums, it is again fair to remark that the last word has not been said. A fair case may be made in favor of any of the systems commonly used; and an equally good case may be made for those used rarely. But the question as to whether to ventilate or not turns upon more than a theory of ventilation. Theory and practice agree as to what areas should be top lighted. Here a system of supply and exhaust is necessary. Theory calls for the ventilation of practically all areas used by a fair number of people; but practice frequently cuts out the apparatus upon receipt of bids; or even when the apparatus has been installed, the management very often cuts off the motors in order to reduce the operating expense! This has happened in scores of instances.

One may well pause before denying the authorities with respect to the need for mechanical ventilation generally. But until more convincing evidence is presented, one may be pardoned for taking the stand that windows on opposite sides of a room should serve to adequately ventilate. In the case of such activities as calisthenics, apparatus work, etc., which do not require top light, windows on opposite side walls will serve both to adequately light and ventilate. For those spaces where top light is required, small windows with ventilighters low in the side walls will serve adequately, except of course in the case of games using the side walls for play. All this will be denied by the authorities, and I cannot prove the case for fresh air *via* side windows. But out of the contradictory data and theories that have been put out by those who are supposed to know, I gain the impression that much that has been said about the ventilation of spaces for physical training and games belongs in the same category with what Grandmother said about red flannels and the damp night air. Something might be said in favor of physical training, games and tests for supremacy without both walls and windows. Such an arrangement would naturally greatly simplify the problem.

The provision of locker facilities in structures of the general class under discussion presents an extremely wide range of problems,—location of locker rooms, lighting, ventilation, systems of control and use, dimensions of lockers, spacing of aisles, etc. Conditions with respect to use differ so widely that only a



Gymnasium, Knights of Columbus Building, Columbus, O.  
Richards, McCarty & Bulford, Architects

few general remarks will serve to cover the case of how locker rooms and lockers should be arranged and equipped.

In a structure containing a swimming pool, it is this feature that ordinarily controls the location of the locker room. For the connection between locker room and pool must be direct and should be upon the same level, the locker separated from the pool only

by the showers. And since the swimming pool is so often placed in the basement,—for no very adequate reason,—it follows that the locker room, which of all rooms in the building needs light and ventilation, is relegated too often to dark, poorly ventilated spaces. But it is difficult to convince committees that swimming pools may quite easily and safely be placed in the upper stories, and that locker rooms should be placed in such locations as may be adequately served by (natural) light and air.

The area and size of the locker room depend upon many factors. Country clubs, athletic clubs, etc., ordinarily have memberships that demand ample, full-length lockers with a generous arrangement of aisles and spacing. College and university gymnasiums, largely by reason of the bulk of clothing kept in them, require full-length lockers. And here the preference for adequate spacing ordinarily prevails. Y. M. C. A. buildings and the like are ordinarily forced to resort to many space-saving devices.

Where single or two-tier lockers are used without tote boxes, it is necessary to canvass many factors. the facilities of the building. With the tote box system, the number of tote boxes required is in direct relation to the total membership; but the number of lockers depends upon the number using the facilities during the peak load. In order to determine the number of lockers used in connection with tote boxes, it is necessary to canvass a variety of local factors bearing upon attendance and capacity.

No matter how nearly ideal may be the arrangement of plan and the provision for mechanical or natural ventilation, there remains the fact that the freshness of the locker room depends upon what is kept in the lockers. To overcome the odors,—to express the idea politely,—that so often disclose the position of the locker room, it is necessary merely to remove the sources of the odors,—that is to say, used towels and clothing. With a system of use that, eliminated the source of difficulty there would remain little more to do than to so place the locker rooms that they would be well served by sunlight and air.

EDITORIAL NOTE: An article on "Ventilation of Locker Rooms" appeared in THE ARCHITECTURAL FORUM Golf and Country Club Reference Number, March, 1925.





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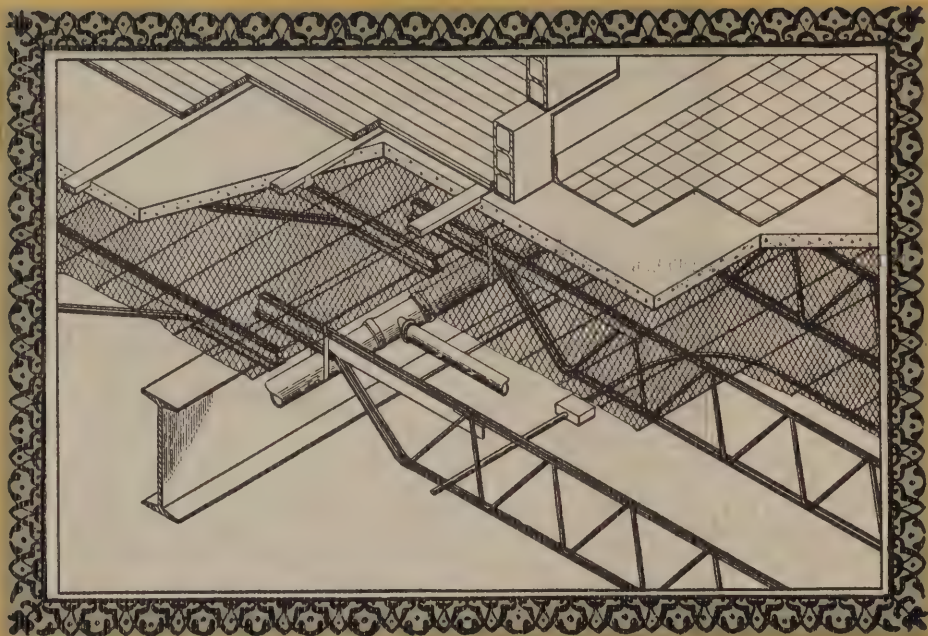
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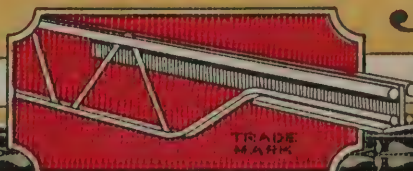
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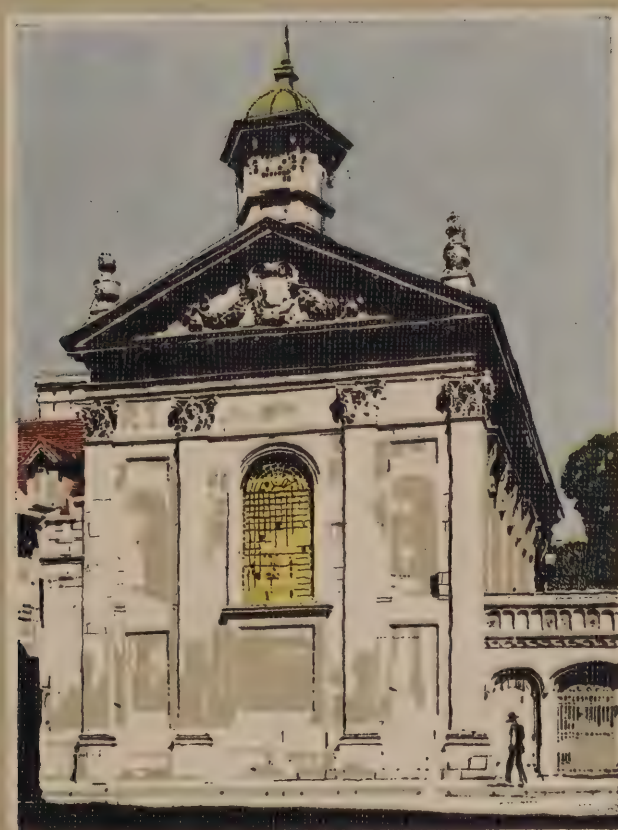


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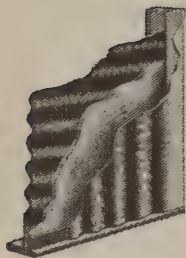
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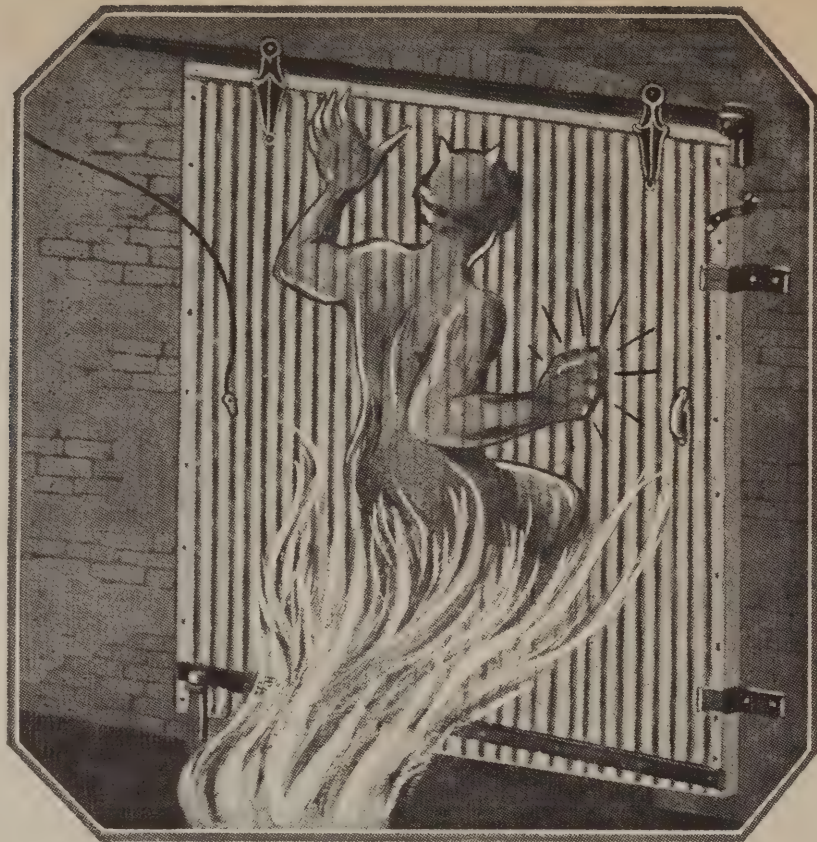


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No other system similar to Coldak can supply refrigeration to more than 6 apartments from one machine.

Brine circulating systems of similar capacity usually cost several times as much as Coldak. And the life of a brine system might be short, due to the corrosive action of the refrigerant. The large brine pipes require insulation. The small pipes used in Coldak require none—thus, the cost of installing Coldak is less.

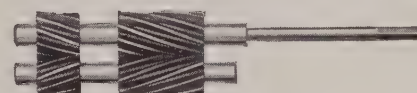
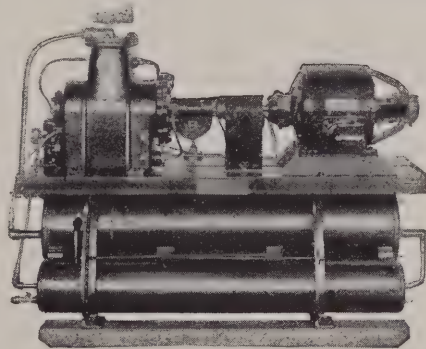
Individual installations in each apartment lack the central plant advantages of Coldak. The large number of machines required, and the current consumed, make such installations costly—and all the machinery and servicing are in the living quarters, an annoyance to tenants.

### *COLDAK puts all the machinery in the basement*

With Coldak, all the machinery is in the basement. There is no noise, no thumping, no jarring. Coldak operates quietly, without vibration—and *the older it grows the quieter it becomes*. This is due to the simplicity and ruggedness of the Coldak machine.

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### *Installation by COLDAK engineers*

The Coldak System can be installed in old apartment buildings as well as in those under construction. The services of the Coldak engineers are available to any architect.

More complete information on the Coldak System for apartment houses has been put in booklet form, in a size convenient for your files. We shall be glad to send you a copy. The coupon below will bring it.

**THE COLDAK COMPRESSOR**—is the utmost in simplicity. It consists of two sets of helical gears, mounted on two shafts and driven directly from the motor, at motor speed.

# COLDAK

## CORPORATION

*Eight West Fortieth Street, New York City*

### *Coldak under J. G. White Management*

The Coldak Corporation is managed by the J. G. White Management Corporation, whose services were secured after their own investigation had proved the superiority of Coldak.

© 1926, C. C.  
A. F. 10-26

COLDAK CORPORATION,  
Eight West Fortieth Street,  
New York City.

Please send me additional information about the Coldak System of electric refrigeration for apartment houses.

Name.....

Address.....

City..... State.....



## The flickering footlights of yesterday have disappeared

Prima donnas no longer sing in the half light of kerosene-fed footlights. Comedians no longer try to register a laugh with expressions that can hardly be seen from the back row.

Electricity, as it has been used by our leading architects, has revolutionized the theatrical performance of yesterday. And this makes the specifying of wires and cables in a theatre of more than usual importance.

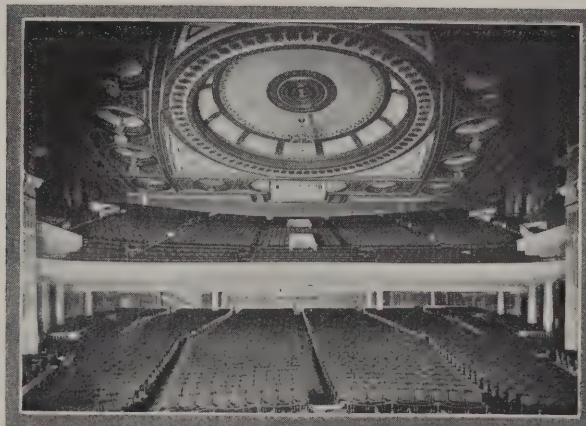
When Thomas W. Lamb designed the Capitol Theatre in New York, he planned an adequate system of wire circuits and

then assured their long life by specifying "Dolphin" Grade Atlantic Wires.

All three grades of Atlantic Wires and Cables—"Neptune," "Dolphin," and "Triton"—have long played an important part in the specifications of many prominent architects. For more than a quarter century they have been demonstrating their high dielectric strength, and the value of the finest insulation, by their long life under severe working conditions.

*Samples and a complete set of specifications will be sent to architects or engineers on request.*

ATLANTIC INSULATED WIRE & CABLE CO., Rome, New York



Another Atlantic installation—The Capitol Theatre, New York. Thomas W. Lamb, Architect, Edwards Electrical Constr. Co., Electrical Contractors.



Neptune — 30% Hevea Rubber Compound.  
Triton — Intermediate 25% Hevea Rubber Compound.  
Dolphin — National Electric Code Standard Compound.

# ATLANTIC

## INSULATED WIRES AND CABLES

*"The Insulation is cured before Vulcanization"*

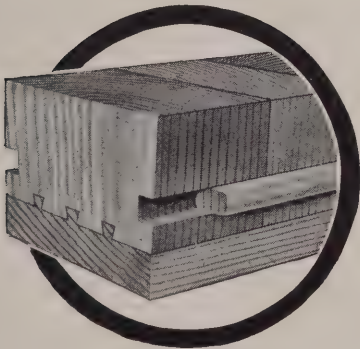


*Warehouse,  
National Tea Co.,  
Chicago.*



*Floored with  
180,000 Sq. Ft.  
of Bloxonend.*

## The type of Floor governs the truck's load limit



*Bloxonend is furnished in 8 ft. flooring lengths. The tough end grain forms the wearing surface.*

Industrial trucks used in the warehouse of the National Tea Company have no load limit. Cargoes are piled ceiling high; loads are propelled by one man and damage due to spillage of cargoes as well as vibration damage to equipment is eliminated. This is what smooth, durable Bloxonend Flooring is doing for the National Tea Co. and it will do the same for your industrial client.

Bloxonend (not loose blocks) lays smooth and stays smooth and is not affected by wear that causes ordinary floorings to splinter, splinter and deteriorate. Trucking over Bloxonend becomes just an incident in the daily production routine instead of constituting a troublesome problem. Used extensively by the leaders in practically every industry.

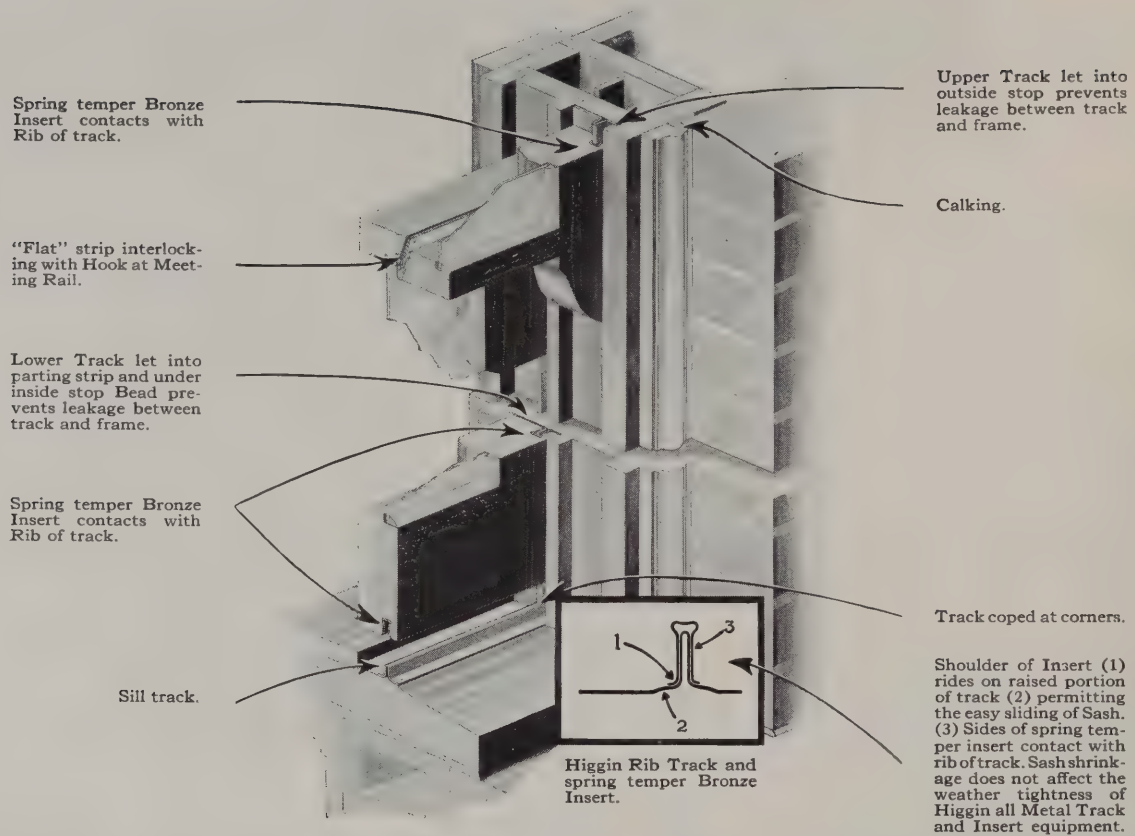
*Architectural Specifications and sample gladly furnished on request.*

**CARTER BLOXONEND FLOORING COMPANY**

KANSAS CITY, MISSOURI

*Branch Offices in Principal Cities*

**CARTER**  
*Lays* **BLOXONEND** *Stays*  
*Smooth* **FLOORING** *Smooth*



# How *could* a draft pass this !

WE invite all architects to inspect the details of Higgin Weatherstripping for double-hung windows as illustrated above. Note how the track strip on the window frame fits into the insert strip in the sash. The latter is made of bronze and being spring-tempered in design hugs the other strip snugly, forming a metal-to-metal contact that drafts will not pass.

Specify an installation of Higgin All-Metal Weatherstripping, supplemented by calking to prevent the passage of air between the frame and the window — and your client will never have any draft problem to contend with.

A Higgin man will be glad to show you details and models of weatherstripping and provide you with specifications or any information you require. Look for his number in your telephone directory and get in touch with him.

THE HIGGIN MFG. COMPANY  
Newport, Kentucky                      Toronto, Canada

**HIGGIN**  
ALL METAL  
Screens *and* Weatherstrips





The Interborough Bank, Norwood, Pa.—a modern banking institution—has Blabon floors of Marble Tile Inlaid Linoleum.



Look for this label on the face of all Blabon's Linoleum



## Do your plans include quiet Blabon floors?

There is not a building to be constructed but what a Blabon floor of Linoleum will increase its comfort, beauty and economy.

For banks, offices, stores, public buildings and institutions Blabon floors have proved most practical in reducing noise from moving feet and chairs, because of their resiliency; practical also in durability and sanitary quality.

The permanence of Blabon floors is assured when Blabon's Linoleum is cemented down over builders' deadening felt.

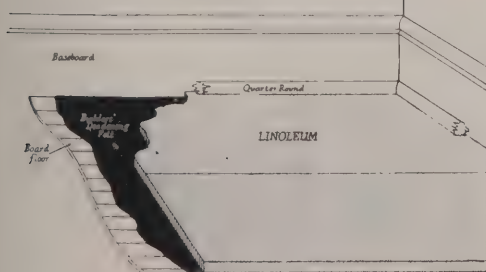
Because of their decorative value, unusual effects with Blabon floors can be readily achieved.

Our Advisory Bureau of Interior Decoration will gladly cooperate with you without charge. We will also mail, upon request of architects, our reprint from Sweet's Architectural Catalog, box of quality samples, and our 1926 Pocket Size Pattern Book.

The Geo. W. Blabon Company, Nicetown, Philadelphia  
Established 75 years

Hazel H. Adler, gives valuable suggestions on harmonizing furniture and draperies with walls and floors, in our 36-page book, "Planning the Color Schemes for Your Home," illustrated in full color. Sent upon receipt of 20 cents.

Illustrating the method of laying Blabon's Linoleum, cemented over builders' deadening felt and finished at the baseboard with quarter-round moulding.



# BLABON'S Linoleum

# CAEN STONE INTERIORS

AN apartment foyer in Caen Stone has dignity and lasting beauty—it is a restful contrast to the foyer that looks like a stage setting for a “Broadway Musical Revue.”

Details and mouldings made from our Caen Stone Cement possess all of the charm and beauty of Natural Caen Stone, because our cement is made largely of Caen Stone—other ingredients being a suitable proportion of cement and certain chemicals.

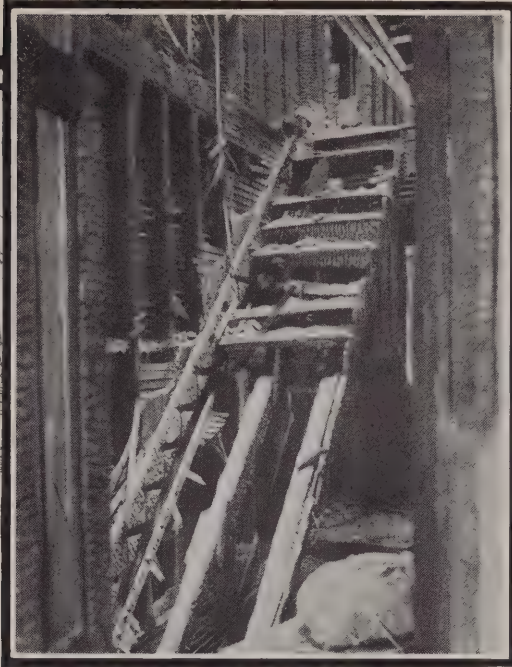
Caen Stone Cement is applied to wall surfaces like plaster; plain mouldings are run with templets; details such as caps, balusters and brackets, are cast in glue molds. Send for specification book.

PALMER LIME & CEMENT COMPANY

103 Park Avenue

NEW YORK, N. Y.





# Tragedy!

Eleven people were trapped and lost their lives because of the unprotected wood stairway reproduced above. Tragedy? Yes—but a greater tragedy lies in the fact that this stairway—or any stairway—would have allowed all to escape if the lumber had been protected with Better Plastering on metal lath. It would have cost very little if any extra to have taken this precaution. That, too, is stark tragedy.

Think! Every three minutes each day, each year a residence fire occurs in the United States. The annual toll of lives from these fires is 15,000 human beings, mostly women and children, without considering the much greater number who are seriously injured in these

catastrophes and the property loss of hundreds of millions.

Those are facts which should make any man pause—particularly the architects of this country who are so intimately connected with the design and construction of residence buildings. Is it not time to take steps to wipe out this national tragedy? *You* can do it, without saddling the owner with heavy expense, by specifying and insisting upon an interior finish with a one hour fire rating—Better Plastering on metal lath. The first week of this month—October 3rd to 9th is set aside as Fire Prevention Week. Let's make it the beginning of a steadfast endeavor to better our disgraceful American fire record.

THE NATIONAL COUNCIL FOR BETTER PLASTERING  
1305 Madison Square Bldg., Chicago, Ill.

## BETTER PLASTERING ON METAL LATH





*Automobile Club, Los Angeles. Construction is concrete with portland cement stucco. Filler walls are monolithic with concrete structural frame. Architects: Hunt and Burns, Los Angeles. Contractor: C. J. Kubach Co., Los Angeles*

## When concrete is used throughout—

ARCHITECTURAL beauty is permanently linked with the economic, functional and firesafe requirements of the modern structure. That is why concrete, either with an applied finish of portland cement stucco or with its natural surface exposed, is being used for a steadily increasing number of fine clubs, churches, schools, auditoriums, banks, hotels, apartment buildings and homes.

### PORTLAND CEMENT ASSOCIATION

*A National Organization to Improve and Extend the Uses of Concrete*

Atlanta  
Birmingham  
Boston  
Chicago

Columbus  
Dallas  
Denver  
Des Moines

Detroit  
Indianapolis  
Jacksonville  
Kansas City

Lincoln, Nebr.  
Los Angeles  
Milwaukee  
Minneapolis

Nashville  
New Orleans  
New York  
Oklahoma City

Parkersburg  
Philadelphia  
Pittsburgh  
Portland, Oreg.

Richmond, Va.  
Salt Lake City  
San Francisco  
Seattle

St. Louis  
Vancouver, B. C.  
Washington, D. C.





#### World's Largest Gas Boiler Installation

The new building for the Boston Consolidated Gas Company, requiring 48,000 square feet of boiler capacity, will be heated by gas. Six Type 4-G 22 Ideal Gas Boilers have been selected for this job. When completed, it will be the largest gas boiler installation in the world. Parker, Thomas and Rice are the Architects.

## A battery of IDEAL Gas Boilers will heat this new building

Large buildings can now be efficiently heated by gas. A new Ideal Gas Boiler, especially designed for large installations, has made this practical.

Ideal Gas Boilers for small buildings as well as larger ones can help architects solve a number of problems.

They are compact. They are automatic in operation. They are clean. They are noiseless.

They require no fuel storage tanks or bins.

To your clients who desire the best in heating, you can offer these advantages and more through Ideal Gas Boilers—a product of the American Radiator Company.

We shall be glad to send you, for your files, complete information on central fired gas heating systems, if you will write to us.

# IDEAL Gas Boilers

Product of AMERICAN RADIATOR COMPANY

**American Gas Products Corporation**

376 Lafayette St., Distributor, New York City

SALES OFFICES:	BOSTON	PHILADELPHIA	CHICAGO	KANSAS CITY
	BUFFALO	JACKSONVILLE	ST. LOUIS	SAN FRANCISCO





*View showing part  
of the laboratory of  
the Woodville Lime  
Products Company*

## The Watchful Eye

Regardless of the fact that our quarry is a deposit of the highest grade limestone for making finishing lime, and—

Regardless of the fact that our lime-making experience extends over an unbroken period of a quarter century—

We realize the importance of uniformity to the extent of maintaining a watchful eye—a modern and fully equipped laboratory—to carefully observe, check and test our lime production to insure maximum uniformity as well as quality.

It is always safe to specify White Enamel, Gold Medal or White Lily brands of Finishing Hydrated Lime.

*"Quality from  
stone to finish"*

THE WOODVILLE LIME PRODUCTS COMPANY  
TOLEDO, OHIO

**WHITE ENAMEL ~ GOLD MEDAL  
AND WHITE LILY  
FINISHING ~ HYDRATED ~ LIME**





Architect, William Macy Stanton,  
Philadelphia. General Contractors,  
The Taylor-Meyer Co., Pitts-  
burgh. Plumbing Contractor,  
George H. Soffel, Pittsburgh.

## Forever immune from troubles caused by rusty water pipe

**T**HE COLTON MANOR HOTEL, now under construction at Atlantic City, is to be equipped with Anaconda Brass Pipe, thus protecting the building, for its entire life, from pipe troubles due to rust.



When Anaconda is specified, the architect is assured of the highest quality brass pipe obtainable, and the security of dealing with the world's foremost manufacturers of copper, brass and bronze.

The Anaconda trade-mark is stamped in every length of Anaconda Brass Pipe for easy identification.

Anaconda Brass Pipe is constantly increasing in use for buildings which must be maintained at a profit. The major item of labor is the same whether brass, iron, or steel pipe is used—except that with Anaconda Brass Pipe this cost is incurred only once.

Based on actual service, Anaconda Brass Pipe is much cheaper than iron or steel. It not only provides clear, pure water at full service pressure as long as the building stands, but under normal conditions it costs nothing for upkeep.

### THE AMERICAN BRASS COMPANY

GENERAL OFFICES: WATERBURY, CONNECTICUT

Offices and Agencies in Principal Cities

Canadian Mill: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

# ANACONDA BRASS PIPE

Installed by Leading Plumbing Contractors



The interior walls of the Camp home are as smooth as velvet and as hard as stone, sound absorbing and firesafe. Note the strong, permanent keys made possible by the extremely plastic qualities of Banner.

# Banner



# *Banner Finish plays a dual role in this beautiful home at Chevy Chase, Md,*

MR. HENRY M. CAMP, owner of this splendid home on the outskirts of the National Capital, was so well pleased with the results from using Banner—not only for the finishing of interior walls and ceilings but for first and second coat plastering and exterior stucco as well—that he wrote us as follows:

*"The plastering is all Banner Lime tempered with a proportion of portland cement, machine mixed. It is a remarkable job and a very economic one from the standpoint of labor costs and the quality of the work. The men on the job said, 'a schoolboy could spread this mortar, it works so easy and fast'. Just like butter and you never saw such keys in your life, no cracks, etc."*

The use of Banner gave the final touch of beauty and air of quality and for generations to come, the walls will stand unmarred by unsightly cracks or other failures, giving those qualities of sound deadening and fire safeness for which "old-fashioned" lime plaster has long been famous.

Progressive architects everywhere are looking far beyond the completion of jobs. They are building for permanence by wise selections of materials of proven superiority. They prefer Banner for the walls of better buildings because, without exception, it has proven its surpassing excellence for nearly a quarter of a century.

**NATIONAL MORTAR & SUPPLY COMPANY**

Federal Reserve Building  
Pittsburgh, Pa.

Banner is made at Gibsonburg, Ohio—by most modern and many exclusive processes in the world's largest plant devoted exclusively to the production of a single brand.

Architect:  
*Clarence L. Harding*  
*Washington, D.C.*  
*Wm. L. Morrison Const. Co.*  
General & Plastering  
Contractor





# *for* WALLS



*The interior walls of 277 PARK AVENUE, New York, are plastered with Beaver American Plasters. General contractor, THOMPSON-STARRETT. Plastering Contractor, Jos. A. CUDDIHY.*

## *Representative of a new and growing tendency*

Distinguished addition to a thoroughfare noted for architecturally interesting apartment buildings, is 277 PARK AVENUE, pictured above, the creation of McKim, Meade & White, Architects. It is one of New York's largest buildings of its nature.

Plaster is not just plaster to the architect who has studied it. Uniformity is

important; and, because it is, the Beaver Products people make uniformity an integral factor in the production of all the Beaver American Plasters.

In specifying Beaver American Plasters by name, architects make sure of getting plaster effects that are appropriate and permanently pleasing.

THE BEAVER PRODUCTS CO., Inc., Dept. 2509, Buffalo, N. Y.

**BEAVER  
AMERICAN  
PLASTER**



ENGINEERING BULLETIN

Issued by the Research Department of  
McKinney Manufacturing Company  
Pittsburgh, Pennsylvania

1926

No. 4

THE MCKINNEY ROLLER PIN

*Vertical and lateral wear—Recognition of lateral wear as a vital factor—  
The McKinney Roller Pin for Bearing Butts—An advance in hinge making*

That butt-hinges are subjected to vertical wear has long been recognized. In fact, various types of vertical bearings have been developed and much has been said of how such bearings obviate vertical wear.

Lateral Wear a Vital Factor

Of lateral wear, however, little has been said, although it is an established fact that lateral wear is equally or more important than vertical wear. In fact, Professor Thomas G. Estep, Associate Professor of Mechanical Engineering at Carnegie Institute of Technology, Pittsburgh, has *proved* by exhaustive tests that such lateral wear is a factor of great importance in the life of butt-hinges.

Public Building Doors Particularly Affected

This is particularly true in the case of public building doors. A glance at the accompanying table will show to what extent such doors are subjected to hard usage. The number of operations these doors undergo over the period of a year is enormous. And lateral wear is correspondingly great.

Approximate Number of Operations of One  
Leaf of Door—Opening and Closing—  
1 Cycle

TYPE OF BUILDING AND DOOR	DAILY	YEARLY
	CYCLES	CYCLES
Large department store entrance . . . . .	5,000	1,500,000
Large office building entrance . . . . .	4,000	1,200,000
Theatre entrance . . . . .	*1,000	450,000
Schoolhouse entrance . . . . .	1,250	225,000
Store or bank entrance . . . . .	500	150,000
Schoolhouse corridor door . . . . .	80	15,000
Office building corridor door . . . . .	75	22,000

\*Per performance.  
Note.—The ratio between daily and yearly frequency varies with the type of building.

An Advance in Hinge Making

Most hinges are equipped with soft steel wire pins which, due to their non-rising lugs, virtually become a part of the three-knuckle leaf, remaining stationary with it. Consequently all friction developed occurs between the stationary pin and the revolving knuckles of the two-knuckle leaf of the hinge. (See A Fig. 2.) The only movement of the modern hinge with non-rising pin is

that of the two-knuckle leaf around the pin. Here friction develops and wear takes place. The pins, made of soft steel wire, soon wear, permitting the hinge joint to get out of vertical, allowing the door to pull away from the hinge jamb at the top, also creating a cutting edge which rapidly cuts away the hinge, allowing the door to drop down in the opening.

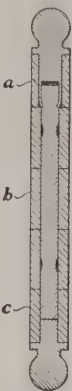


FIG. 3

when a steel door sags and drags on a brass or marble threshold, it is necessary to install new hinge equipment.

Non-rising lugs as furnished on modern hinge pins supposedly prevent the rising of the pins. However, the friction between the two-knuckle leaf and the pin rocks the pin back and forth and may eventually cause it to rise. When McKinney Roller Pins are used there is no friction between the two-knuckle leaf and the pin. It consequently does not rise.

The Roller Pin

The Roller Pin (Fig. 4) is a pin in two sections—a case-hardened roller (b) and special recessed ball tip (a). The roller is inserted into a machined opening in the ball tip extension which is drilled out to take the pin. The roller is then crimped to the ball tip extension so that the pin can be removed as any one-piece pin. This chamber is packed with grease before the roller is inserted. Section “a” remains stationary with the knuckle of the three-knuckle leaf, while section “b” revolves with the two-knuckle leaf.

The McKinney Roller Pin too has other advantages. There being a minimum of friction, doors revolve on their hinges with greater ease. This too affects the use of door-closers—the door-closer working more effectively where there is less frictional resistance.

In concluding, it can be said that the introduction of the patented McKinney Roller Pin is revolutionary in the manufacture of hinges—a long stride forward in their mechanical perfection.

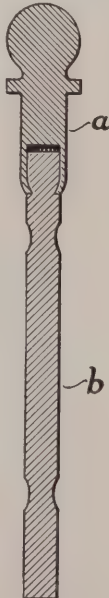


FIG. 4

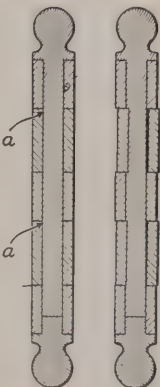


FIG. 1 FIG. 2

# SARGENT

*Locks & Hardware*



SARGENT  
HARDWARE

DEL MONTE HOTEL  
Del Monte, California

Lewis T. Hobart  
Architect

THE knowing ones of East and West meet within the portals of the famed Del Monte. The new hotel carries on the best traditions of the older, fire-destroyed structure which even in the 90's was Mecca for California's foremost families. In the modernity of its design and construction and in the convenience of its appointments the new hotel is quite superior. Now, handsome Sargent hardware of solid, time-resisting bronze facilitates the activities of guests and guarantees them security. Expedites the work of servants through the Sargent master-keyed lock system. Protects the management from many annoyances, not least of which are repairs, replacements and the rust-toll so generally exacted by the Pacific's revivifying breezes.

SARGENT & COMPANY, *Hardware Manufacturers*  
NEW HAVEN, CONN.

New York: 94 Centre Street

Chicago: Wacker Drive at Randolph



### *An object lesson from the roller skate*

If you ever used roller skates, you will remember how easily you propelled yourself on those equipped with ball bearings. You also remember how quickly skates with plain bearings wore out, while those having ball bearings were practically indestructible.



*Medical and Dental Building  
Seattle, Washington*

*John A. Creutzer, Architect.*

Stanley Ball Bearings were used.



## Why Ball Bearing Butts are "wear-proof"

**W**HEN you apply a pair of butts you expect them to "stay put" for the life of the building. But do they?

Metal-on-metal friction may result in quick wear. The joints of the butts soon wear down until the door scrapes on the jambs and needs adjustment or repair. The cost of these adjustments or repairs will more than equal the original expense of ball bearing butts.

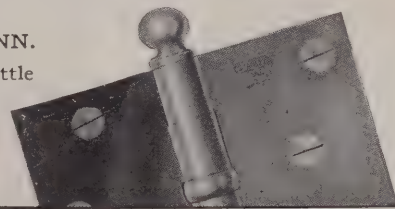
Stanley engineers have originated most butt and hinge improvements since 1852, including cold-rolled steel, the use of ball bearings, the non-detachable (non-losable) washer, non-

rising and self-lubricating pin, and improved finish. This wide experience enables us to make a product of uniform high quality that sets the standard in butt manufacture. The Stanley trade-mark is on every butt.

\* \* \*

The *Architect's Manual of Stanley Hardware* contains information which will aid you in selecting and specifying the correct hardware. We will gladly send you a copy. A description of the Stanley line of Butts and Hinges can be found in Sweet's Catalogue, pages 1500 to 1503, and 1556 to 1568.

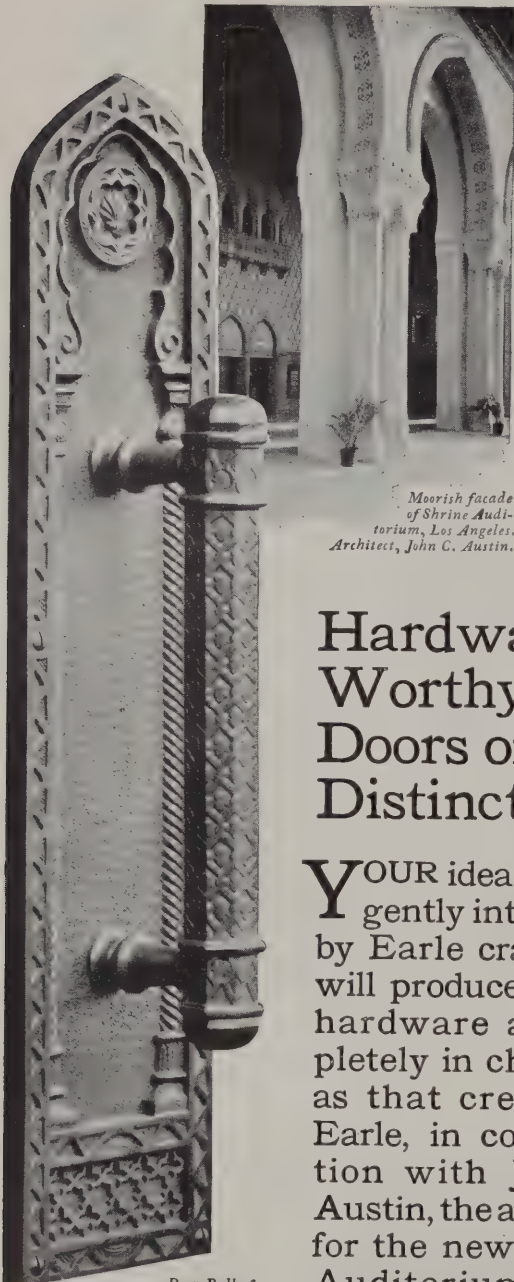
THE STANLEY WORKS, NEW BRITAIN, CONN.  
New York Chicago San Francisco Los Angeles Seattle



# STANLEY BALL BEARING BUTTS

STANLEY





*Moorish facade  
of Shrine Audi-  
torium, Los Angeles.  
Architect, John C. Austin.*

## Hardware Worthy of Doors of Distinction

**Y**OUR ideas, intelligently interpreted by Earle craftsmen, will produce for you hardware as completely in character as that created by Earle, in collaboration with John C. Austin, the architect, for the new Shrine Auditorium in Los Angeles. You may submit plans or suggestions for elaboration entirely without obligation on your part.

*Door Pull of  
waxed bronze, by Earle. Supplied by  
Harper & Reynolds Corp., L. A.*



**EARLE** HARDWARE  
COMPANY *Manufacturing*  
2367 East 51st Street  
LOS ANGELES CALIFORNIA

# OTIS

FOR NEARLY THREE QUARTERS OF A CENTURY

THE WORLD'S WORD  
FOR  
ELEVATOR SAFETY

OTIS ELEVATOR COMPANY  
OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD



**Galvanized  
After Weaving**

Wire Fences  
and Gates  
Electric-Weld  
Railings and Gates

# Anchor Fences

ANCHOR POST IRON WORKS, 9 EAST 38TH ST., NEW YORK, N. Y.  
BRANCH OFFICES IN PRINCIPAL CITIES



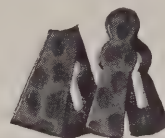
# Early English and Colonial Hardware by (CORBIN)

The fact that Corbin Hardware is hand hammered exemplifies the accuracy of Corbin reproductions. Corbin knowledge of metals has also made it possible to rust-proof each item.

Whenever the building calls for Early English or Colonial Hardware Corbin can now supply your entire needs.



Amusing old "H" and "L" hinges swung the cupboard doors of our ancestors. Those who are building the Early American type of home, will want them.



More interesting key plates than these could not be found were you to comb New England antique shops. True reproductions by Corbin.



## Following Faithfully the Hardware of our Forefathers

*Authentic reproductions by the makers  
of Good Hardware—Corbin—for the  
modern home of Colonial design*

Think of having delightful old thumb latches like this one on interior doors—at no extra cost.

The inviting charm of a Colonial door depends largely upon the authenticity of its Colonial hardware. Rest assured that any Corbin pattern you select will be correct.



It is an advantage for your client to be able to secure all the hardware for their home from one dealer. Corbin makes the complete line. Corbin dealers carry it.

**N**OW that early American architecture has come into its own—when doors and windows, cup-boards and closets demand hardware of pure Colonial style—Corbin announces the first complete line of early English and Colonial Hardware.

In every detail, the pieces are true reproductions of the most beautiful patterns of Revolutionary days. Quaintly old fashioned, because of their simple beauty—modernly efficient and long lasting because they are of Good Hardware—Corbin.

A most unusual booklet showing the full beauty of this new line of Good Hardware awaits your request. By all means send for it by today's mail.



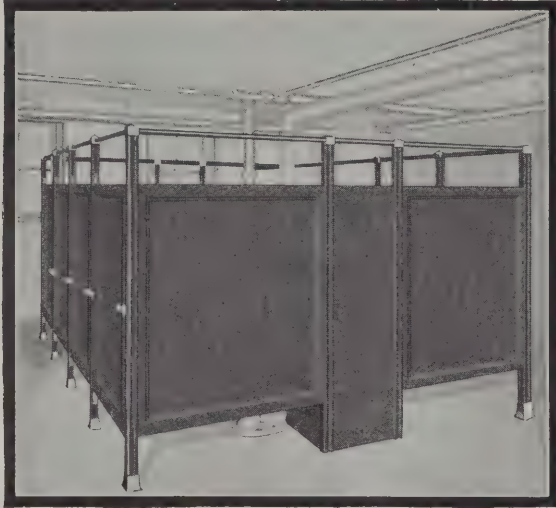
Corbin Early English and Colonial Hardware is faithful to every detail of the originals.

### Good Buildings Deserve Good Hardware

**P. & F. CORBIN**  
The American Hardware  
Corporation, Successor



New Britain, Conn.  
New York Philadelphia  
Chicago



St. James School, Decatur, Ill.

## An Indispensable Part of Your Toilet Rooms

SANYMETAL individual toilet compartments have become a necessity for industrial, commercial, public, and school buildings. They are as much a part of your modern toilet room as the plumbing fixtures. They make sanitation a certainty. They are not easily marred or defaced. And the fact that they are good for the life of most any building makes them a genuine investment in *durability*.

Sanymetal Products are: Partitions for toilets, showers, dressing rooms, urinals. Partitions for offices and factories. Metal doors, screens and wainscot. Sanymetal Gravity Roller Hinges for toilet doors. Write for new Catalog No. 15.

THE SANYMETAL PRODUCTS CO.  
1702 Urbana Rd. Cleveland, O.

**Sanymetal**  
TRADE MARK  
U.S. REG.  
*Toilet and Office*  
**PARTITIONS**



## Greatest *Movability* Hauserman Steel Partitions

### *The 7 points of Superiority*

1. Complete line
2. Easily wired
3. Attractive appearance
4. Greatest movability
5. Sensational prices
6. Built of steel
7. Erection service

*found in all 7 types  
of Hauserman Partitions*

YOUR clients can readily move or interchange Hauserman Steel Partitions without fuss or muss, loss or damage—an exclusive Hauserman advantage.

Let us consult with you on the many advantages of these adaptable and attractive partitions.

THE  
E. F. HAUSERMAN CO.  
6803 Grant Ave., Cleveland, O.  
New York Boston Pittsburgh  
Detroit Chicago

TOTALLY DIFFERENT  
**Hauserman**  
MOVABLE STEEL  
**PARTITIONS**  
PATENTS APPLIED FOR



Edge tight  
sound proof  
**DOORS**

and folding partitions

**MODERN ARCHITECTS**

*Specify Hamlinized Doors*

Southwestern Baptist  
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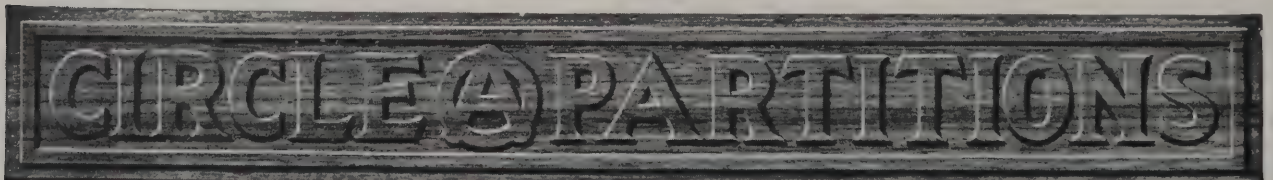
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# BOOK DEPARTMENT

## The Historic Doorways of Old Salem

DETAILS OF THE "AMERICAN RENAISSANCE"

INTEREST in American Colonial architecture, which has been growing for the last 30 or 40 years and which it is now evident is to be permanent, has naturally involved close study of the examples of this architecture which are still left to us. Every portion of the Atlantic seaboard which was settled during the colonial era has been explored and ransacked by architects who have made measured drawings of details likely to be reproduced, while writers on architectural subjects have prepared countless volumes dwelling upon the different types of Colonial architecture and upon the subtle differences which existed between architecture in different colonies and even in that of a single colony at different times. Miss Northend has for many years been identified with writings on New England architecture, decoration, furnishing and social life, and more specifically with what obtained in and around Boston, her excellent taste and trained judgment making possible her selection of the best and guiding her to a form of treatment likely to be of the greatest benefit to architects and others interested in old buildings.

This volume deals with the New England architecture of what might broadly be designated as the late colonial era and the early part of the federal period. It was a time during which great prosperity prevailed, particularly in New England, when many of the seaports were flourishing towns and rich centers of commerce. Wealthy ship owners, having accumulated what they regarded as sufficient of this world's goods, settled in Salem and other centers of shipping, and built those marvelous old houses which still exist as models to present-day architects. Probably nowhere else in America were woodworkers as proficient as were those in Massachusetts. Led by the famous McIntire, these men had been trained as shipwrights and carpenters or as carvers of the gorgeous figureheads and other forms of ornament which adorned the vessels of the period, and their taste as to

design appropriate for use in domestic buildings had been trained and rendered acute by the study of the works on interior architecture which were being published in England. What was more fitting than that retired skip-pers and wealthy shippers should employ to adorn their fine, large, square mansions on land the same artisans who had fashioned their ships which sailed the sea?

The old houses which render Salem interesting to the antiquarian as well as to the architect represent, of course, several different periods. "Almost 200 years elapsed between the time of the hasty erection of the first log cabins at Naumkeag (the original name for Salem) and that of the culmination of the Colonial vogue in 1818." As the town grew first prosperous and then wealthy, the houses became more beautiful and luxurious. The early habitations were the most modest of shelters, those coming later of narrow clapboards, as for example the famous "House of the Seven Gables," built during the seventeenth century, while the latest and finest houses, built during the height of Salem's prosperity and commercial importance,



Doorway of the Richard Derby House (1761)  
The oldest brick residence in Salem

were sometimes still of wood, painted white, but more often of brick, no longer contracted as to size and rambling as to plan, but spacious, highly dignified, rectangular, and three stories high as a rule, built with all the symmetry, balance and grace which were obtaining in Georgian England and being imitated in America.

American architects profited by the reserve in use of ornament which obtained in England. On these old houses in Salem,—square, symmetrical and beautifully proportioned,—ornament was used only where it was required,—on cornices, and occasionally about one or two important windows; but more frequently ornament was confined to the entrance doorway and its surroundings. Thus there came into being these marvelously beautiful doors, with their pilasters and pediments, and the graceful porticoes with their columns and balus-



trades,—details almost invariably correctly scaled, and designed with the unerring skill which determines exactly and correctly the type and the amount of ornament to be used. Present-day designers may well profit by study of reserve in the use of ornament, quite as much as by that of the ornament itself upon these old houses.

With so much having been written on the historic doorways of Salem, it is perhaps expecting rather too much to look for anything new or novel in still another volume on the subject. It is useful, nevertheless, to have illustrations of these beautiful entrances collected in so convenient a form, and the photographs from which the illustrations were made, taken particularly for this work, show in many instances the doorways from points of view which are new and novel and interesting to architects.

**HISTORIC DOORWAYS OF OLD SALEM.** By Mary Harrod Northend. Illustrated from photographs especially taken by the author for this publication. Plates and 96 pp. of text, 5½ x 8 ins. Price \$3. Houghton Mifflin Co., Boston and New York.

**THE DESIGN OF SMALL PROPERTIES.** By M. E. Bottomley. 233 pp., 6x8½ ins. Price \$3. The Macmillan Company, New York.

AMERICAN home owners and even American architects are likely to overlook the possibilities which lie in small areas of ground such as belong to the average suburban home. It is easy, we think, to obtain beautiful landscape effects when one has plenty of land to do with,—or to create stately gardens where there is sufficient space for their proper development; but when it comes to making wise use of little space, the possibilities

are overlooked, and one is likely to be content with what is obviously the easiest thing to secure. The ingenuity of the Japanese in creating their marvelous gardens within the most limited areas might teach us something, and indeed we need not go far afield to find charming little gardens improvised from the back yards of city houses. It is merely a matter of making the best use of what one has, and good taste often makes much out of little.

Mr. Bottomley approaches the subject from the standpoint of a landscape architect, and as such he seeks to interest, encourage and direct the owners of small properties chiefly in suburbs and villages, the small property in his opinion benefiting quite as much from thoughtful and careful arrangement as the large estate. The subject is of course closely related to the orientation of buildings,—the best placing of them upon their plots,—and also to be considered are the locations of garages and service yards and entrances. These details are fully dealt with, and there are chapters on the use of garden accessories and the choice of trees and shrubbery appropriate for use in certain places. The plans which the volume contains, all of which are quite simple and intended obviously for the use of people of moderate means, have been prepared to afford freedom, privacy, and play spaces for children as well as to possess beauty and artistic quality. The work is recommended to architects as well as to their clients; in fact if it can be placed in the hands of clients it may save their architects considerable effort in overcoming objections to the best arrangement of grounds because they are out of the ordinary.

## The Practical Book of Tapestry

By George Leland Hunter

THE intimate connection between tapestry and architecture as well as the frequent use of architectural motifs in tapestry design gives to tapestry and its history an interest to architects which is strong. Primarily associated with the Gothic age, which saw what were perhaps the most brilliant of its triumphs, tapestry has been identified with the development of all of western Europe and with the different periods—the Renaissance, early and late; the Baroque age; the eras of the different Louis; and in later days with the various places where looms have been set up and where present-day workers are engaged in creating by use of old-time methods those marvelous weaves which add to any surroundings where they are placed a richness of decoration which confers dignity and splendor to the place where they are used. No study is more absorbing than that of tapestry.



IN this volume is given a complete review of the subject of tapestry. The author has made a deep study of tapestry's history and is familiar with every important example in the world. The volume deals also with the technique of tapestry weaving, the changes and development of its design in different countries at different times, and it goes at length into descriptions of modern looms where this ancient art has been successfully revived. The illustrations, many in full color, add to the reader's interest. All are from photographs made especially for this work, and many show the student for the first time examples of tapestry weaving of the first importance. The volume is particularly valuable by reason of its accurate documentation and full bibliography and because of its giving the names of places where there are to be seen the most important tapestries now in existence.

Richly illustrated in half-tone and full color. 302 pages; 6½ x 8¾ inches. Price \$10.

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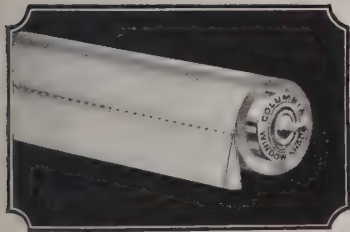
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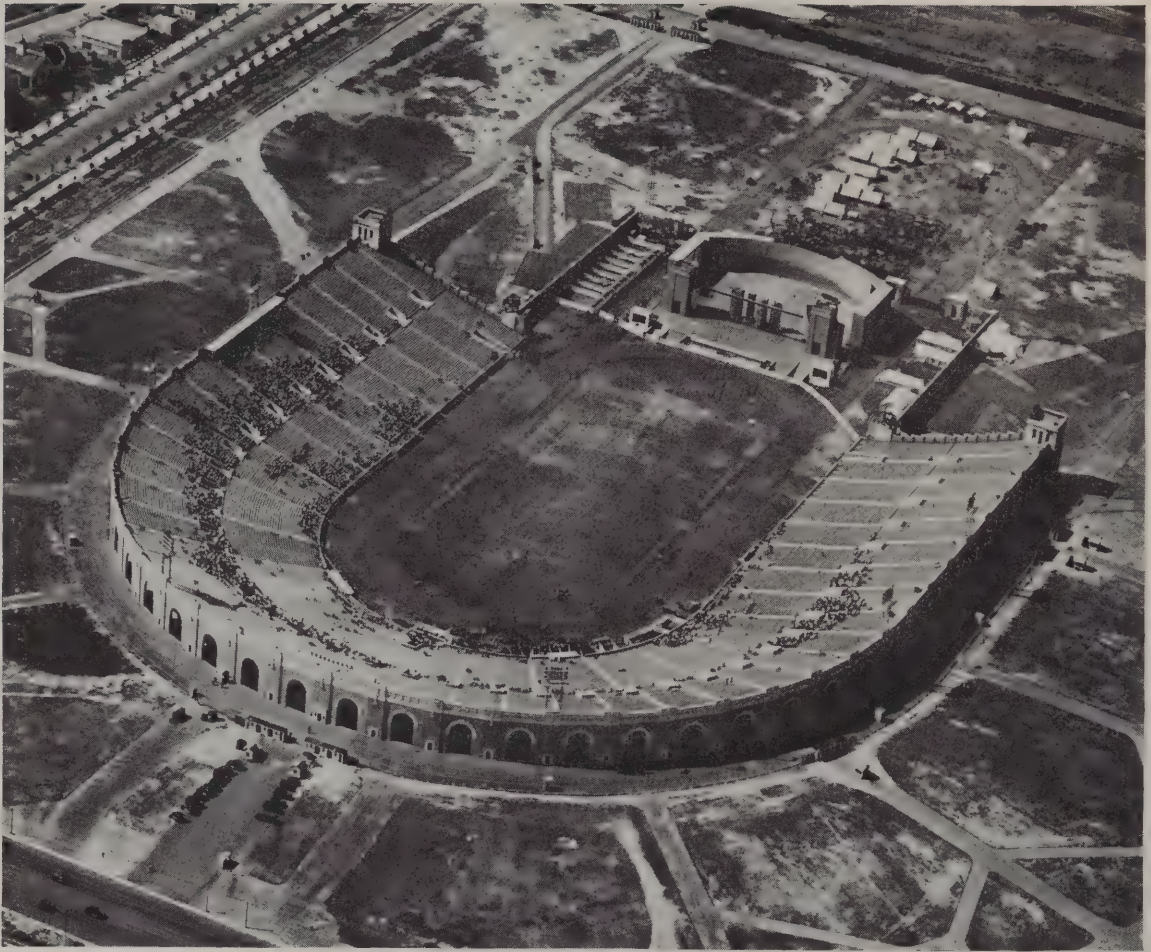
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# The ARCHITECTURAL FORUM

VOLUME XLV

NUMBER 4

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PARKER MORSE HOOPER, A.I.A. Editor

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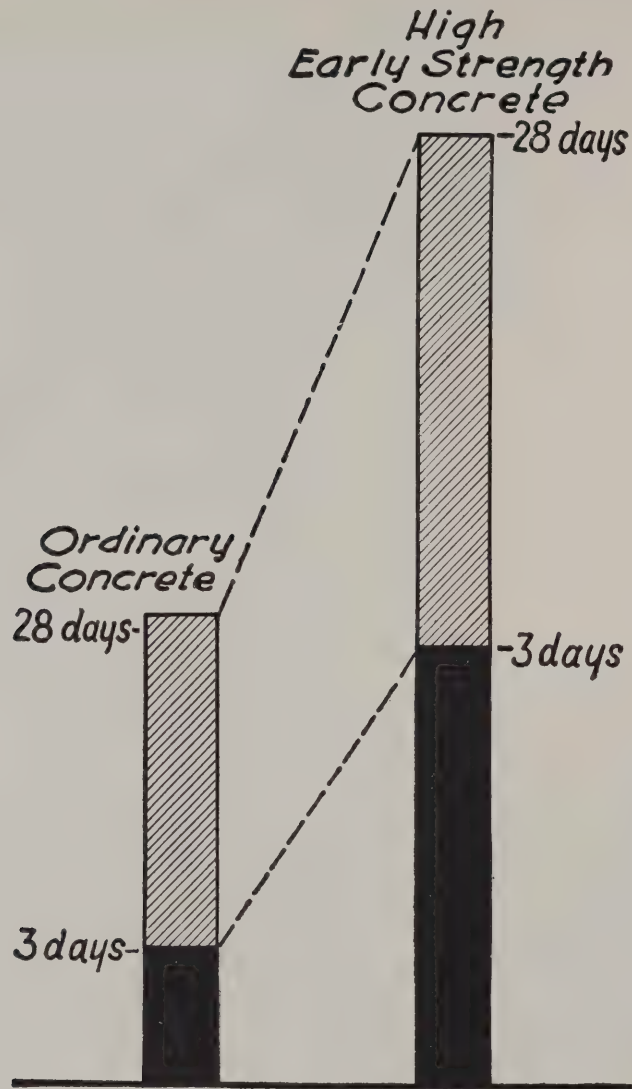
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# THE EDITOR'S FORUM

## THE FOLLOWING OF PRECEDENT

WRITING in a recent issue of *The New York Evening Post* on the influence of precedent upon present-day American architecture, Professor William A. Boring of Columbia University makes observations which in the interests of architecture should be given wide circulation.

"A direct copy of the main features and details of an admired example does not, as I understand it, fall into the proper meaning of the use of precedent. Precedent to me means form which has been accepted as the proper expression of good logic, fitness and beauty, proved by the test of time, and accepted as a standard upon which new expression can be modeled and with which it may be compared.

"Whenever a nation seeks precedents for its expression in art, it by that token admits that it is not satisfied with its own expression of art; that it is not contented with what it has accomplished; that it demands better architecture. It acknowledges that preceding periods in the course of civilization have reached a higher degree of cultivation in art.

"When America reaches her apogee in art we shall probably show much less interest in the architecture of the past. In fact, we probably shall either have copied all of it or bought it all, brought it across the ocean, and reërected it in the United States.

"Along in the early '80s a firm of architects in New York began to work rather closely to precedent. The buildings they designed were so much better than anything till then produced that, in spite of the cry of plagiarism, the entire architectural world began to study and to understand precedents.

"Enthusiasm for the Colonial swept the country like a prairie fire. Symmetry took precedence over the picturesque; withered papier mache garlands curled up; glass bottle discs fell out of the stucco gables; round shingled towers lost their bannerets, and architects began to use precedent. After the Italian Renaissance had taught the lesson of simplicity, dignity and scale, the transition in public buildings to the grand manner of the monumental school was an easy step, a step readily taken.

"The precedent of the Ecole des Beaux Arts has taught us method in our study of plan and composition. Our schools are training the student to design in sound, classic styles which accustom him to beautiful forms while he devotes his energy to plan and composition. He thus cultivates a sense of fitness and good taste, and when this quality is established he may then be original, but until then, unless he is one of those rare geniuses we discover occasionally, he would far better stick pretty closely to precedent.

"But we are no longer teaching only historic forms

as the basis of design. Modern methods of construction and present-day requirements have developed new problems in design which must be reckoned with. The struggle with the immature mind is to make it work logically, and at the same time to feel that there is something really alive in architectural design. We can train the student to draw, we can teach him to theorize, we can instruct him in history, and we can show him how to construct buildings, but routine instruction will not teach him to design. We can put all kinds of knowledge into his brain, but design must come out through his soul.

"The big tonnage of building in America is not vitalized by architectural quality. It will be so vitalized only when judicious use of precedent is more widely accepted by the intelligent practitioner. He must build for convenience, he must build for safety, and his impulse is to build as beautifully as his quota of genius makes possible; but he never will create beauty by logical deduction alone, nor ever without precedent, and of these two sources of inspiration he will be far happier to see in the publications his creations from the latter rather than from the former, important as the former certainly is.

"Had the elevator been known in Italy in the year 1500, the tall commercial building would not now be a difficult structure to make beautiful. Every tried experiment has so far failed to produce in a tall shaft crowded with uniform windows and perched on a plate glass base, a type of beauty we can safely leave to the future generations as precedent. It is, however, a problem which can be solved; a very interesting type it is, distinctly American, and in it are elements of a beautiful expression of architecture.

"Precedent is doing good to American architecture when it brings us back to good taste after the aberrations of those newly discovered American styles which bob up now and then. The Lincoln Memorial, the Boston Public Library, the University of Virginia and the New York City Hall, while original designs, are founded on the truths laid down in precedent. Precedent is changing the redwood jig-saw house of California into that semblance of solidity seen in the masonry construction of Italy, Spain and Mexico, and the plan into a logical and luxurious arrangement, with court, arcade and balcony, delightfully picturesque and rambling—the kind of villas with stucco walls and tile roofs we see on the hillsides of Italy. Precedent, too, is guiding the design of luxurious mid-western homes toward conservative originality which has marked character and beauty, and the broad, flat, well wooded areas available in that fertile country are converted into terraces and gardens of distinct and handsome type."

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# The ARCHITECTURAL FORUM

Volume XLV

OCTOBER 1926

Number 4

## The New Fine Arts Building in San Diego

WILLIAM TEMPLETON JOHNSON and ROBERT W. SNYDER, Architects

By ROSE HENDERSON

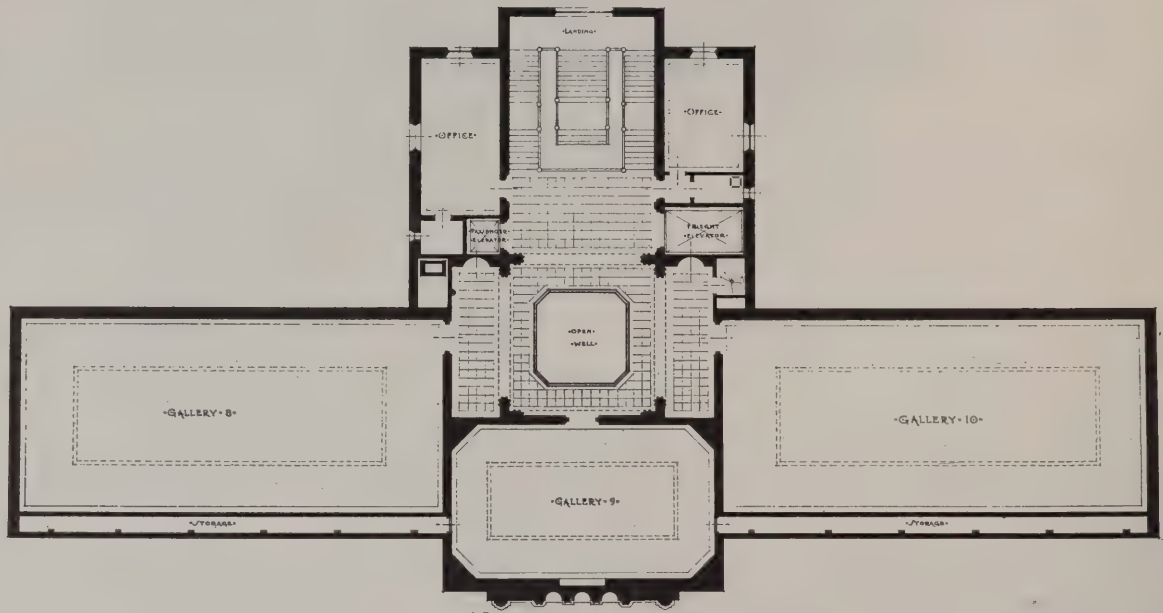
IN the awakening of general concern for better architecture in America, the various art galleries and museums of the country have exerted an influence that is often directly apparent and is undoubtedly responsible for larger, intangible results which cannot always be traced to any specific source. By an adaptation of traditional modes to the requirements of modern buildings dedicated to art, architects have been able to present interesting and vital examples of construction that command public attention. The function of the art museum has been extended very generally. In many instances such a building has become more or less of a civic and social center, and the old atmosphere of aloofness has largely disappeared. This new significance of art as a community affair has in itself led to greater respect for architectural dignity and grace, and it has, in turn, provided a warmth of social background

for the creative builder. An intelligently designed art building may logically become an inspiration for a coherent civic center. It should serve to unite the best thought and talent of a town or city and to furnish an opportunity for architectural expression.

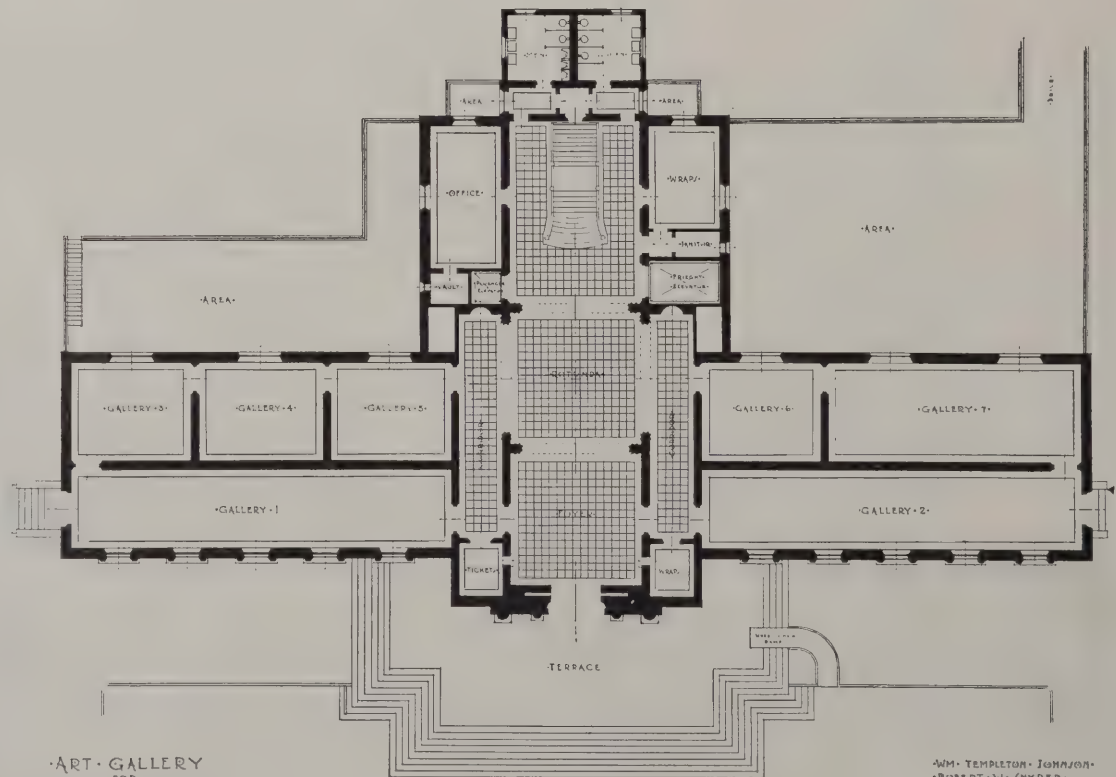
The new Fine Arts Building in San Diego is a structure in harmony with its surroundings and possessing at the same time individual character and interest. Situated in Balboa Park, one of the most beautiful "made" parks in existence, this building was erected to fit in at the north side of the plaza in that unusual architectural ensemble designed by the late Bertram G. Goodhue for the Panama-California Exposition and retained by San Diego as a permanent civic group. The style, that of the early Spanish Renaissance, was predetermined by the site, but the architects felt that an art building might well possess more refinement and reserve than are ex-



Fine Arts Building, Balboa Park, San Diego



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PLANS, FINE ARTS BUILDING, BALBOA PARK, SAN DIEGO  
WILLIAM TEMPLETON JOHNSON AND ROBERT W. SNYDER, ARCHITECTS





MAIN ENTRANCE, FINE ARTS BUILDING, BALBOA PARK, SAN DIEGO  
WILLIAM TEMPLETON JOHNSON AND ROBERT W. SNYDER, ARCHITECTS



The Main Staircase



The Sculpture Gallery



Natural History Museum, Balboa Park, San Diego





Small Picture Gallery, Fine Arts Building



Decorative Art Room, Fine Arts Building



Botanical Building, Balboa Park, San Diego



pressed in the other park structures, which reflect considerable Mexican as well as Spanish influence. The art gallery is therefore differentiated from its neighbors by a certain classic reticence, and yet it keeps enough of their spirit to maintain a consistent congruity. Ample wall spaces and the freedom and warmth of decorative mouldings and facade are at home in the tropical luxuriance of the park setting, with its slender columns of eucalyptus, its gorgeous masses of flowers, and the stretch of blue bay not a great distance off, to the south of the gallery front.

The Spanish painters, Velasquez, Murillo and Zuraran, are represented in full-figure sculptures of the facade, and busts of two others, De Ribera and El Greco, are introduced in the ornamental panels at either side of the imposing center group. In the upper part of the facade the coats of arms of Spain, the United States, California and San Diego are introduced in the decorative detail. Architecture, sculpture, metal working and the various allied arts are represented on small shields in the lunettes above windows.

Architectural interest of the interior appropriately centers in the main entrance hall and stairway, and the galleries have been kept severely simple as an unobtrusive background for the various exhibits. Decorative mouldings and balusters carry the eye up to the polychrome ceiling beams and panels done in interesting patterns in old blues, reds, yellows and greens. On the lower story ceiling are square panels of dull blue or red, having designs in brown and tan. A row of bright blue enameled tile tops the stone balustrades. The rich mosaic of the ceilings pro-

vides a satisfying accent, balancing the austere simplicity of the plaster walls and harmonizing with the Spanish character of the structural detail. The fenestration is pleasing, especially in the arrangement of the large window above the main stairway.

On the first floor are two large galleries intended for statuary. Back of these are smaller rooms to be used for tapestry, ceramics, prints and various other collections. On the second floor the main galleries will contain paintings, and they are appropriately lighted for this purpose. The prismatic ceiling glass with cloth louvers above the suspended skylights directs the major part of the light toward the walls and keeps practically the same illumination throughout the day. Back of these large picture galleries are smaller rooms for prints, and for library and office spaces. Particular care has been taken to provide comfort for visitors. Many invalids live in San Diego because of the delightful climate, and so a special incline for wheel chairs is provided at the main entrance, and the passenger elevator will accommodate wheel chairs. The ventilating plant provides for a complete change of air every five minutes, and the incoming air is thoroughly cleansed by a system of fans which is installed in the basement.

The Fine Arts Building is a gift to the city by Mr. and Mrs. A. S. Bridges of San Diego. At first the building will be used largely for visiting exhibits, and permanent collections will be acquired gradually. The architects have succeeded notably in their efforts to make the structure a pleasing and homogeneous unit in a singularly imposing park group.



Detail, Second Floor, Fine Arts Building



# Reims Reborn

By J. DONNELL TILGHMAN

FRANCE, in her reconstruction of the regions left devastated by the war, has often been likened to a phoenix, and the worn out simile persists in the mind of the traveler who pauses to watch the stone cutters and masons rivaling the craftsmen of the middle ages in the work they are accomplishing on ruined cathedrals and churches. In every little mutilated village chapel there are workmen, sometimes but a few, reverently restoring to their former condition these marvelous architectural expressions of the religious fervor of a past age. In the cathedral at Soissons, literally blown in two by shell fire, indomitable France is attacking a task that at first glance seemed to be entirely hopeless.

But the interest of the world is chiefly centered, now as during the war, upon the Cathedral of Reims, one of France's most highly prized Gothic treasures, the scene of the crowning of her kings, a church as inseparably associated with her history and national life as is Notre Dame itself. Before the first German shells fell upon Reims it proudly dominated the city and surrounding country, an unrivaled example of the Gothic architecture of the thirteenth century, glorying in beauty of proportions and execution, its windows filled with glass equaled only by that of Chartres, its portals decorated with splendid sculpture, the interior enriched by tapestries, paintings, and ancient choir stalls. Above all others, this was a complete expression of the ecclesiastical art of the middle ages. But a different picture presented itself after the Armistice. Over a wrecked city a mere skeleton of the former Notre Dame de Reims reared itself. Great holes opened to the sky in vaulting unprotected by any roof; windows were mere blank openings; mutilated statues tottered in shattered niches; and even the pigeons that once fluttered about the intricate carvings and cornices were gone, their places taken by crows, adding to the desolation and bleakness with their black silhouettes and hoarse cries. Now, after several years of painstaking labor, the scars of bombardment and fire are beginning to disappear. The casual observer, as he glances at the restored nave, is far too likely to belittle the damage that was done. He fails to realize what effort and skill have gone into the work of rehabilitation; nor does he stop to remember that behind the stone wall that now separates nave from transepts there is a veritable ruin, a roofless choir, gaping holes, weakened supports, the repair of which may take generations to accomplish. The time will come, however, when Reims Cathedral will stand, as formerly, the perfection of Gothic architecture, minus, unfortunately, that which our generation can neither create nor restore,—the color of ancient glass, the charm of mediæval sculpture, the richness of carved wood. Thanks to the genius and energy

of France, our children's children may admire the architecture of Reims, though they will know its decoration only in part, since much must be lacking.

From September 4, 1914, when the first shell burst in the Cathedral, until October, 1918, the edifice was subject to an almost ceaseless bombardment. By actual count considerably more than 280 powerful shells struck the building during that period, to say nothing of innumerable projectiles during bombardments so severe that it was impossible to record their number. The windows were shattered, sculptures were chipped and broken, great holes were torn in walls and vaulting, and the stability, even, of the entire structure was threatened. Due only to what was, perhaps, a premonition of disaster on the part of the builders in constructing vaults of unusual strength and thickness, the building did not collapse. Some of the most irreparable damage was occasioned by fire. On September 19, 1914, three incendiary bombs fell on the church. These set fire to scaffolding that had been erected about the north tower for purposes of reconstruction. The conflagration spread to the timbers of the roof, and finally to the furniture within the choir, and to the straw which had been piled in the nave to act as bedding for some hundred wounded, left there by the Germans in their hasty evacuation of the city a few days before. For hours the building was given over to the flames. The following day found it roofless, with the most priceless of the sculptures of the north portal and inner western wall fatally damaged by the calcination which wrought such injury.

At the end of the war a serious problem presented itself. Was the Cathedral of Reims to be restored, or should it be left as a memorial and reminder to future generations of all France had suffered and lost during more than four years of invasion? Famous men ranged themselves on both sides. Matters were not brought to a climax until the Archbishop of Reims requested that his cathedral be turned again into a place of worship, reminding those who were in favor of making the ruined sanctuary a bleak and terrible monument, "*une honte pour eux, pour nous un Parthenon*,"—that the Church had need of its house. And so the work of restoration was undertaken, and considerable progress has been made.

During the war, M. Sainsaulieu, the architect in charge of the Cathedral, took some steps toward the protection of the building. Unfortunately, but unavoidably, this was done at a late date. France, as well as the entire world, was aghast at the destruction of so great a work of art. It was universally expected that the sanctity of Reims would be respected, that the protests of all nations and the appeals of the pope himself would be heard, and that the bombardment of the church would cease. So in spite of M.

Sainsaulieu's efforts, it was some time before the doors were locked against anyone who wished to enter and, in a misguided desire for souvenirs, pick up valuable bits of sculpture or fragments of glass, or in any thoughtless manner add to the damage already done. Against further bombardments, the portals of the west front were protected by sand bags; a wall sheltered the sculpture of the end of the nave, and a weakened pier at the crossing, the collapse of which threatened the whole building, was supported and strengthened against further injury.

The first work attempted after the Armistice was that of protection rather than of restoration. For several years the roofless building had been exposed to the elements, so that dampness and frost were rapidly increasing the damage already done by explosion and fire. In March, 1919, a protective covering of corrugated iron was erected over the building. During this time German prisoners were employed in clearing out the debris in both nave and choir. Some conception of the amount of broken stone piled between the walls by the collapse of vaults can be had when it is remembered that the remains of the high altar lay beneath 115 cubic yards of rubble and debris of destroyed roofs and masonry vaults!

Before the actual rebuilding was commenced, a scaffold was erected and gradually moved around the Cathedral. Stone by stone, the damage was estimated and the strength and condition of every buttress, pier, and wall examined and tested. This lasted during the major part of 1920, and only at the end of the investigation was it evident that restoration could be successfully carried out. The north aisles of the choir and two of the radiating chapels were damaged less than the rest of the structure. This part was early turned into a temporary and all too insufficient place of worship. A wooden ceiling was built across the north transept at the level of the aisle vaulting; a stone wall, erected between the piers of the choir, shut off the ruins of the apse; one of the chapels of the *chevet* became a sacristy; and for several years this restricted space was all that the people of Reims could use as their cathedral church. The need of a larger place of worship was imperative. The nave having suffered less than the choir, it was decided to begin the actual restoration on that portion. The work here would be less difficult, it would train the builders for the more arduous tasks to be undertaken elsewhere, and, if a success, would act both as a proof that complete reconstruction was possible, and as an incentive to obtain possible donations toward the continuation of the work.

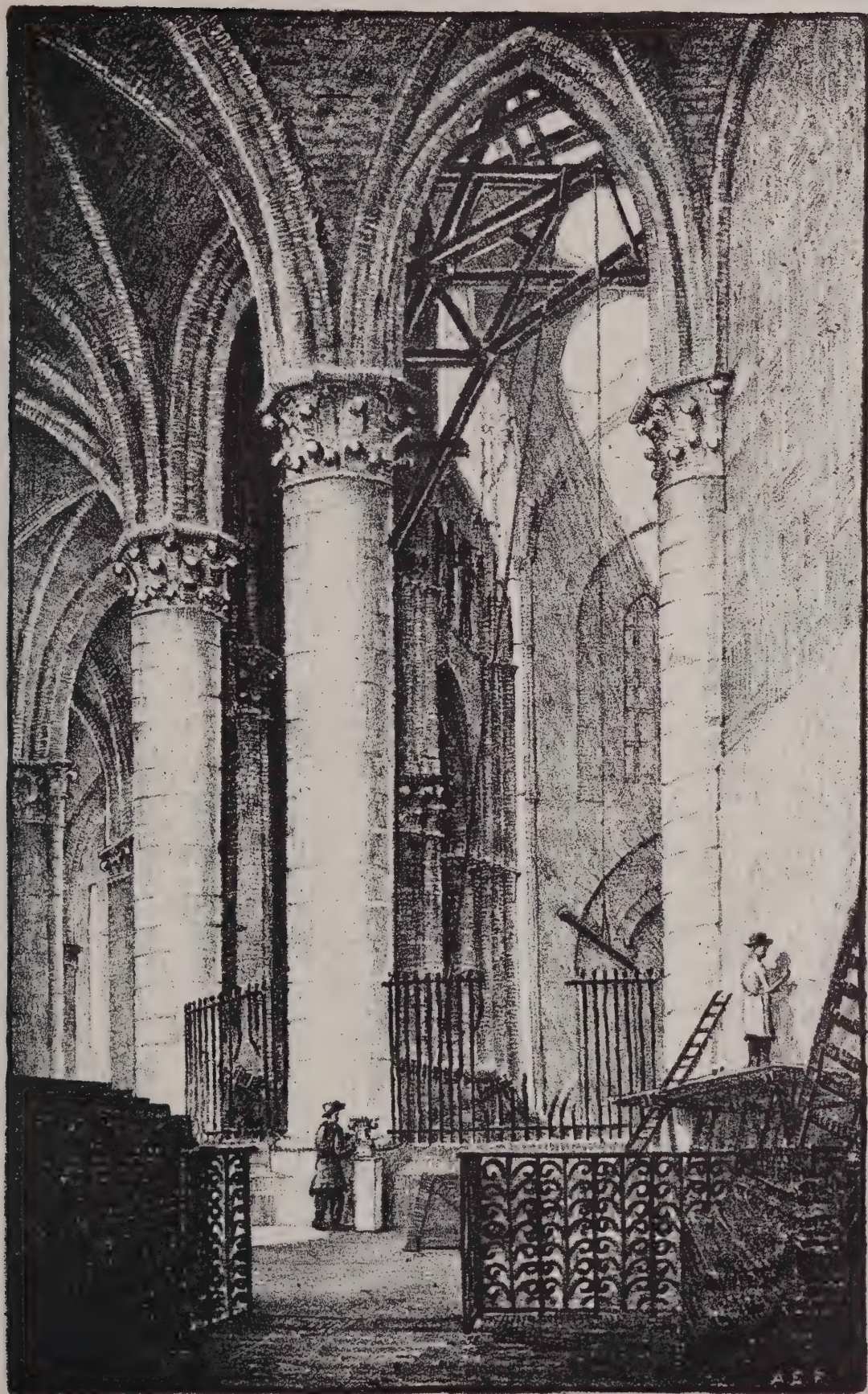
Making use of the old materials wherever possible, work was started under cover of the temporary roof, holes torn by shell fire were repaired, and today the vaults are complete. The windows, with their mutilated tracery carefully replaced, have been glazed, other scars have been removed, and in a short time the nave will again be turned into a sanctuary. Sculptured capitals and ornament have been repaired with a skill that is

almost incredible. This was largely made possible through the efforts of one man, M. Havot, who for nearly 60 years had worked on and cared for the sculpture of the Cathedral. During his long years of service he had acquired a knowledge of the carvings without which many mutilated bits of stone would never have been returned to what were their original positions. In the days when the church was a deserted ruin, the old man moved about his Cathedral, carefully collecting the fallen fragments of the sculptures he had loved and tended so long. In most instances he was able to recognize and classify what he saved, though much will forever remain unidentified. The Cathedral in its darkest hours was not without its picturesque figures. Future generations will owe much of their enjoyment of what remains to them of these great Gothic sculptures to that solitary man, wandering about the ruined church and desecrated sanctuary, reverently collecting the bits of stone and painstakingly classifying them, moved always by the hope that they might some day take their places again in the harmonious whole. This hope has been largely realized.

On the main facade there are statues that may never be restored. Whether their restoration should be undertaken at all is an unsettled question. Over the entire west front much damage was caused by shell fire, but of the three portals, that to the north suffered most, for during the fire of September, 1914, heat from the burning scaffold calcinated its statues and decoration almost beyond recognition. Another scaffolding has been erected about this door, but no restoration is being attempted. What remains is merely being protected from the weather. The rest of the facade will probably be treated in the same manner. Fearing that another calamity might possibly occur to Reims in the future, it has been suggested that such statues as the famous Angel of Reims and the King David be removed to safety in a museum, and their places filled by skillfully made copies. It is to be hoped that this course will be followed.

Of the marvelous glass only a small portion remains, and no one window in entirety. Late in 1917 what remained of the old glass was moved to a secure place. To accomplish this no scaffolding could be erected for fear of drawing fire from the Germans, stationed within easy range of the Cathedral, on the hills outside Reims. Workmen, clinging to rope ladders fastened to the cornices, laboriously removed what was left in the windows. The windows of the clerestory were formerly filled with some of the best glass of the late thirteenth century, a period which produced glass that has never since been equaled in either color or design. In the restored nave all but eight of the clerestory lights are glazed in plain "cathedral" glass. The four windows nearest the crossing, two on each side, protected as they were by the transepts from the heaviest bombardments which came from the east, were least damaged, and have been restored. The two next these, despite partial destruction, have been





RESTORING REIMS CATHEDRAL  
FROM A SKETCH BY ALFRED E. POOR



pieced out with fragments, and the pair of adjoining windows will be filled with mosaic made up of debris. But the jeweled light of the remaining windows is lost forever, reduced almost to dust that was irretrievably mixed with stones that lay along the walls.

It is not, however, the intention of the restorers that, contrary to the conception of the first designers, the nave of Reims shall always be illuminated by a cold, hard light. A Gothic cathedral without its glass is incomplete and dead, with only a suggestion of the mystery and sanctity it should possess. So as time and resources allow, the remaining windows will be filled with colored glass, erected, it is hoped, chiefly as memorials. Any modern glass that is put in will have to conform strictly with the character of the old, in feeling, color, and design. The restoration of the great western rose is already a possibility. In 1908, this window was carefully repaired and strengthened by M. Paul Simon, a descendant of many generations of Remois glass painters. Fortunately, M. Simon's drawings and colored sketches made for this work were saved, and the replacing of the window according to them will be turned over to his son, M. Jacques Simon, a skilled glass worker.

One cannot realize without emotion that the Cathedral is being restored largely by the people of Reims, by men who have lived under the protection of its soaring mass, and loved it from early childhood. Many of the workmen are Remois; there are M. Havot and M. Simon, but above all, that personality which is guiding the entire work, M. Henri Deneux, the architect in charge. Thanks to him, this great church retains unimpaired the spirit and atmosphere given it by its builders. Never has an edifice of the middle ages been handled with greater respect, nor has the hand of a restorer been more loving and skillful. Had the four corners of the earth, instead of France alone, been searched for an architect, there could have been found none more suitable than this man with iron gray hair and beard, and a bit of the tragedy of Reims forever in his eyes, who, with slow step and low voice, moves about his Cathedral, supervising its rebuilding. M. Deneux was born in Reims, and in the truest sense of the word received his education in the Cathedral. He was apprenticed at an early age to an architect of Reims, and has spent a large part of his life in the service of the *Commission des Monuments Historiques*. During many years he did considerable work on the Cathedral, acquiring a minute knowledge of its details and construction. His great ambition is to restore it to the condition he knew when he loved it in his childhood. Due to this love, the work is being done by methods best calculated to

preserve the character and individuality of the building, and to thus bequeath it intact to posterity.

With us in America things would doubtless proceed more rapidly. There would be the whir of modern machinery, the bellowed orders of foremen, blowing of whistles, screeching of steam cranes, noise and endless confusion. But, instead, the nave of Reims has all the atmosphere of the studio of an artist rather than that of a great workroom. The work goes on slowly and carefully, in the manner of the builders of old, when every man labored for love of his art and the glorification of his religion, rather than for his hire. Here skilled stone cutters bend over blocks of stone, carving by hand details that at saving of time and expense might be finished by machinery. But in doing this the stone is given that living quality which steam and electricity can never impart, and the re-born Reims is being spared that ready-made, cast iron Gothic look, which we, alas, see only too often in America. Americans may feel some justified pride, however, in this great church, now slowly rising from its ashes. Of Mr. Rockefeller's generous gift of a million dollars toward the restoration of the historical buildings of France, three hundred thousand have gone to the rebuilding of the roof and fleche of Reims, a gift equaled in value only by the appropriations of the French government. Approximately two millions of francs have been received from other sources, a considerable amount being made up of the donations of visitors to the Cathedral. But only about one-tenth of the one hundred and forty-four millions of francs necessary, it is estimated, for a complete rebuilding has been subscribed, after several years of effort!

The work must not cease here: There is an almost incredible amount of restoration yet to be done. As one enters the west portal of the Cathedral now, and stands at the barrier which restricts the visitor to an area at the end of the nave, the rough stone wall built across the church at the transepts and reaching to the very crest of the vaulting cuts off the sight of the once glorious choir and apse. Where once a varied splash of color met the eyes, as they were raised to the clerestory, the sunlight filters coldly through greenish glass. For many years, no doubt, that blank wall will rise before the worshipers in Reims Cathedral. Behind it there is reconstruction that will take infinite labor and care. But in the end the innate artistic sense of the French, together with their unquenchable enthusiasm and spirit, will accomplish the task. Over the city and its surrounding valley, Notre Dame de Reims will again rise in all its former splendor, a queen among Gothic churches, and the admiration of the civilized world.



# Limitations in Remodeling an Asset to Style

A COUNTRY HOUSE AT CHESTNUT HILL, PHILADELPHIA

EDMUND B. GILCHRIST, Architect

By HAROLD DONALDSON EBERLEIN

THE limitations inevitably attendant upon any process of architectural remodeling are to be accounted opportunities to be embraced rather than regretted as vexatious obstacles one would gladly be rid of. Paradoxical as it may seem to make such an assertion, the fancied contradiction is more apparent than real, as we shall see if we pause to give the matter a little thought. Limitations, whether self-imposed or accepted from sheer necessity, always flip the imagination and supply a wholesome stimulus to inventive ingenuity. After that the success of the outcome rests largely upon the reactions set up in the minds of architect and client. There is the whole story presented in a nutshell.

Much more might be added by way of amplifying and elucidating the view just expressed, which is really not unduly optimistic; but, until we have closely scrutinized an apt example for the purpose of concrete illustration, it will be better to reserve further comment on this score as an apposite conclusion. This apt example is ready to hand in the house at Chestnut Hill, near Philadelphia, recently remodeled and enlarged by Edmund B. Gilchrist. The remodeling, it is true, was so drastic and so far-reaching that it might almost be called a new creation. The structure today bears little resemblance to the house as it was before it underwent what might not inappropriately be termed several major operations of architectural surgery. Nevertheless, the process was in very truth a remodeling in that sundry limitations, inherent in the fabric of the original building, were scrupulously respected, and these limitations were converted to such happy purpose in the newly constituted ensemble that their restrictive quality has altogether disappeared. How felicitous has been the outcome may be judged from accompanying illustrations upon these pages.

Without any desire to be ungracious or to asperse the taste and abilities of the architect responsible for the house as it stood prior to the changes lately wrought, it is in order to say that

it truly represented the prevalent manner of the "nineties," when it was built, and that, as a good interpretation of the domestic architectural ideal then current, it satisfied the taste of both architect and client. Judged by standards of the period, it was a creditable performance, and it would be manifestly unfair to apply to it the yardstick of our present preferences, in view of the improvement in taste.

But a great deal of water has flowed under the bridge since the nineties. What might have passed muster then very readily as an embodiment of exalted architectural excellence, might now be looked upon as little less than a positive eyesore. The nineties were too near the welter of Victorian complexities and muddled perversions for us to expect any of its exponents, save those endowed with the keenest perception of fundamental verities, to apply such tests of severe discrimination as would effectually guard them from the applauded follies of the moment. Since then understanding of fundamental principles has increased apace; popular taste and sound judgment in matters of architectural design, however much they may leave still to be desired, have advanced by leaps and bounds, and the present average sense of discrimination would no longer tolerate what was regarded not so many years ago with almost universal approval. So it was with the house in question.

It is not necessary to enter here into a discussion

of the aspect the structure presented when remodeling was begun. Suffice it to say that the whole situation was critically studied in a spirit of perfect fairness. There was no disposition to indulge in wholesale condemnation. On the contrary, every consideration was carefully and impartially weighed; every effort was made to discern whatever might be intrinsically good,—however obscured or discounted by existing environment,—with a view to its possible retention, and conditions that eventually took shape in the course of this judicial survey were frankly accepted for incorporation in the new scheme. Such limitations as the mass of

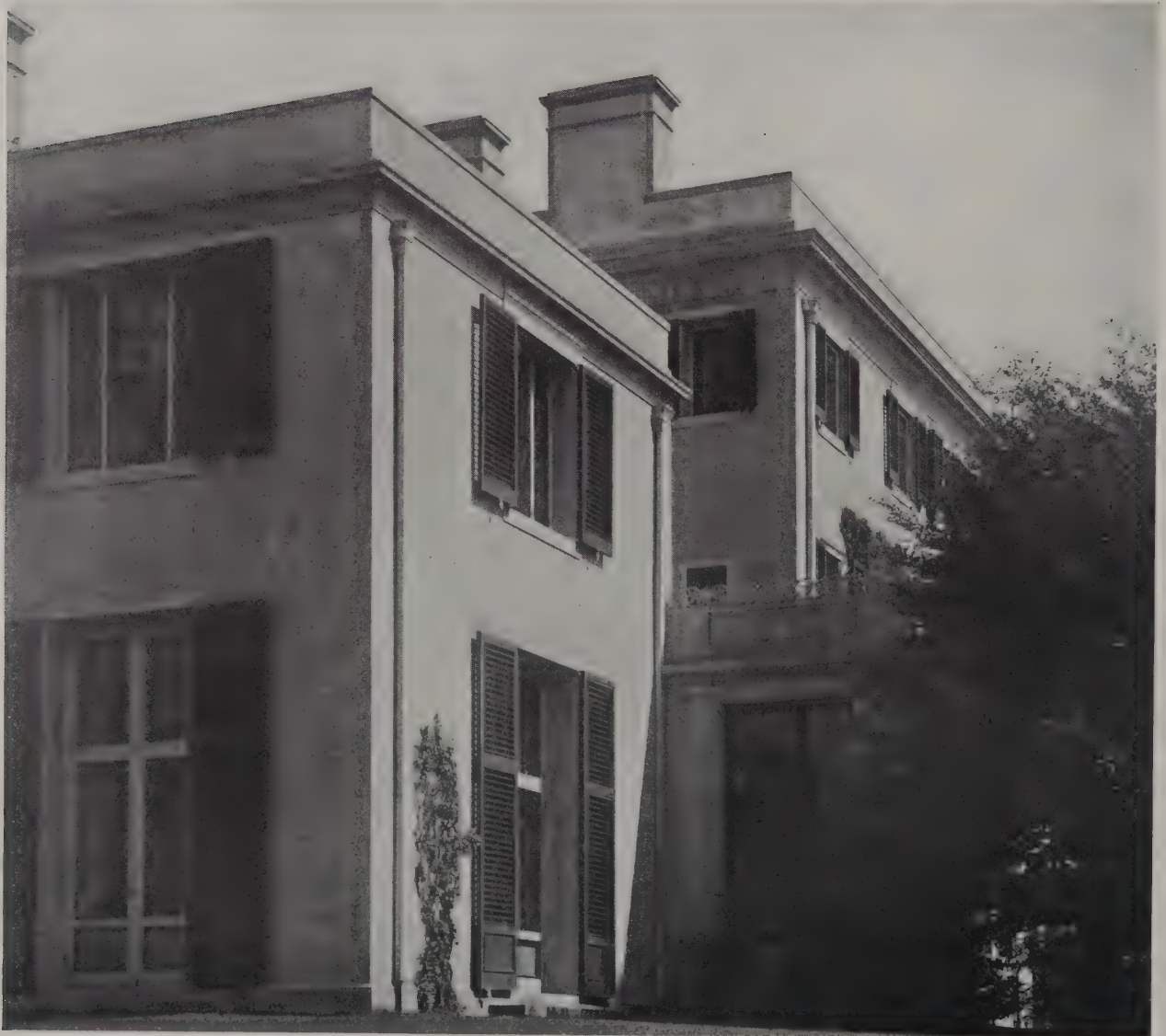


The South Front



Veranda on North Terrace

the building, the fenestration of the south or garden front, and a number of other items were deliberately adopted as essential determining factors to be made use of in the fresh composition, although one can well understand how they might easily have been regarded as trammels to be evaded when there was an opportunity of doing so. As a matter of fact, the architect and all directly concerned with the house feel convinced that the acceptance of the limitations has produced a better and more individual result than would have been the case had there been no problem with certain immutable factors to solve. In other words, they recognize the truth that overcoming obstacles is a stimulus to invention, and that difficulties to surmount, if viewed from the right angle, put the designer upon his mettle in a manner that can rarely happen where the road is easy and there is an absolutely open course to designing *de novo*. The opposition of difficulties, in architecture as in everything else, calls forth the most substantial and enduring results. The structural opposition of a characteristic "mansion" of the "gay nine-



Southwest Corner, House at Chestnut Hill



ties" called forth the suave composure of a well poised exterior strongly reminiscent of the Regency. Thus may a confronting obstacle, firmly grasped and handled, carry with it the germ of inspiration to annihilate its faults, and this frequently occurs.

Removing the yellow brick face from the south or entrance front may have eliminated an element of offensive color and texture, but it did not alter the placing or sizes of the windows and doors. These have not only been completely reconciled with the spirit of the present composition but have also been rendered distinctly contributory to its effectiveness. The fluted frames of the central group of windows and the breaks in the lower mouldings of the cornice above the windows of the upper story supply features of added interest consistent with the delicacy of the details that distinguish the entrance loggia. On the north front of the main block, where pre-existing conditions left greater freedom for unfettered design, the window treatment is much bolder and exceedingly effective with its clearly defined patterning of penetrations and undisturbed wall spaces.



Veranda of Service Wing



North Terrace, House at Chestnut Hill

While the entire composition is characterized by sobriety and broad simplicity, all the details are noteworthy for their engaging delicacy, their quiet richness, and the judicious restraint and insight with which they have been employed. Of particular charm are the deeply coved cornice and the paneled parapet surmounting it. The whole house, it is true, is so strongly suggestive in its general aspect of Regency manners that we are quite justified in speaking of it as a Regency house, if it be necessary to append a categorical label to its style. It should be noted, however, that there is no meticulous imitation of Regency exactitudes in minutiae of detail, or in anything else for that matter. On the contrary, instead of scrupulous archæology we find on every hand freedom and freshness of interpretation. The doorway on the north terrace, if one cares to analyze its composition with academic precision, might be classified as a blending of Le Muet's manner with French practices of the late eighteenth century. The iron grilles over the small windows flanking the north doorway are unmistakably seventeenth century Italian in their derivation. The discerning critic might go on indefinitely dissecting the composition and assigning each small detail to its appropriate academic pigeonhole. But there is no point whatever in pursuing such a pedantic and pettifogging

course. It would be like losing sight of the wood for the trees. What really does matter is that the total conception is vital. Every feature of it lives and contributes an appreciable addition to the life of the whole, and that whole eloquently reflects the life of today in its social and economic conditions and in its ideals. That the ensemble so closely coincides with the manner of the Regency in England that we may fitly set it down as a successful revival of Regency style is of no particular significance. Neither is it of any special significance that the details employed can all be ascribed, with more or less exactitude, to readily traceable origins, forming in their sum total a decorous and well digested system of embellishment. It is of infinitely more significance that the house faithfully represents a sane and ordered modern conception of life, and if that conception happens to run parallel in sundry respects and conditions to conceptions of what was becoming at the time of the Regency, the resemblance is of purely incidental interest and might be assigned a place in the pleasant and harmless speculative limbo of likenesses in cause and effect. The response and dignity of this exceptionally felicitous work of remodeling are unbroken by any disturbing incident that might cause a qualifying regret to the observer.

In connection with the details that figure in the



Living Room Fireplace



On the North Terrace



embellishment of this rarely agreeable country house, it is worth calling especial attention to the striking and appropriate use made of early nineteenth century cast iron decorations which appear as veranda garnishings, and also in the form of veranda and terrace chairs, settees and tables. Previous to the remodeling, the owner had collected a considerable quantity of old floriated cast iron from houses in course of demolition. Some of it is still being manufactured, and with the modern product it was possible to make up the required number of chairs, tables and settees. The grape-bunch turn-buckles for the shutters are likewise attributable to foresight in rescuing them from the hands of the house wrecker.

This substantial recognition of the merits of and the suitable employment of cast iron ornament is significant on several counts. In the first place, it is a step toward the vindication of a type of decorative metalwork of which we still have a goodly quantity left and crying out for preservation, notwithstanding the enormous amount that has been destroyed as scrap iron,—a type that has too long suffered undeserved obloquy under the common impression that it was only a meretricious Victorian product not worth bothering about. Without any disparagement to the just claims of wrought iron, we submit that cast iron of good design has also

its appropriate place and uses and that it ought to be impartially judged for its own distinct and separate worth, and not subjected to unfair comparisons and consigned to contempt under the blanket "Victorian" condemnation. The place given it in the enrichment of the house before us is encouraging and shows intelligent perception. In the second place, the presence of cast iron in the early nineteenth century manner exemplifies the owner's contention that it ought to be, and is, possible to find stock products of industrial or commercial art where-with to grace domestic architecture without being compelled to have recourse to specially designed fittings and adornments. So far as this particular instance is concerned, at least, he has proved his point.

Last of all, the recognition of the value of cast iron so clearly set forth in the accompanying illustrations is symptomatic of a commendable and increasingly popular attitude toward things Victorian. Time was, not so very long ago during the analytical era of "period purism," when it was the almost universal habit to condemn unreservedly everything Victorian, early, middle or late, without pausing to sift the gold from the dross and to inquire whether there might not here and there be something intrinsically good that ought to be saved. Now that we have come to a synthetic era of miscellaneous combination,



In the Breakfast Room



Stair Hall Detail

when many tread with surer step and are not afraid to exercise discrimination, we are disposed to adopt a more judicial attitude and are willing to appraise each feature for its own merits, irrespective of the "period" to which historically it belongs. Hence the salvaging of good Victorian inventions; many were unquestionably bad and altogether worthy of the condemnation meted out to them. The early Victorian cast iron was one of the good features.

The veranda-like projections from the south front have been very pleasantly treated as rooms,—one of them a breakfast room,—with an exceptionally large area of window space, so that their veranda nature is not painfully obtrusive. And speaking of window spacing and sizes, it is not amiss to note the serenity of the living room, due in great measure to the few large windows that admit a flood of light and yet leave the uninterrupted wall surfaces so necessary to

the repose of a room and essential for its furnishing.

Reverting once more to the stimulating quality of limitations in remodeling, after scanning the illustrations of the house at Chestnut Hill one can see that the acceptance of certain unalterable conditions has not only not militated against vitality of composition but has even aided the logical working out of an interesting scheme. The limitations, so to speak, set the theme for the composer to elaborate. The great dramatists of the golden age of French literature closely bound themselves to the observance of the "unities," and the sparkling coherence and lucidity of their work can be largely attributed to the restrictions by which they chose to limit their writing. The same principle of limitation may apply with equal felicity in the case of architectural remodeling, as we have seen in the instance before us, and prove not a hindrance but a help toward success.



North Front, House at Chestnut Hill  
Edmund B. Gilchrist, Architect

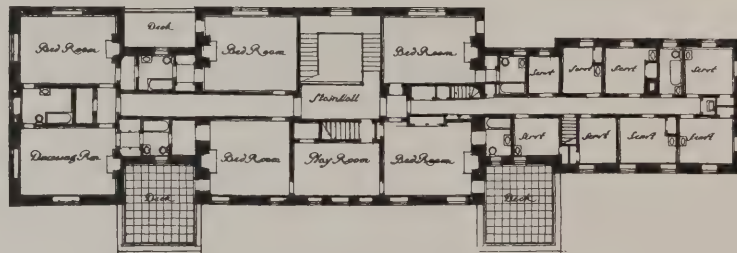




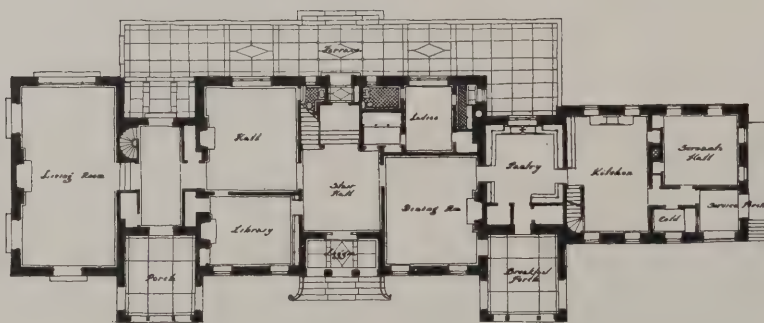
*Drawing of Loggia on Back of Plate 51*

ENTRANCE LOGGIA, HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT

*Plans on Back*



SECOND FLOOR



GROUND FLOOR

PLANS, HOUSE AT CHESTNUT HILL, PA.

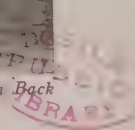
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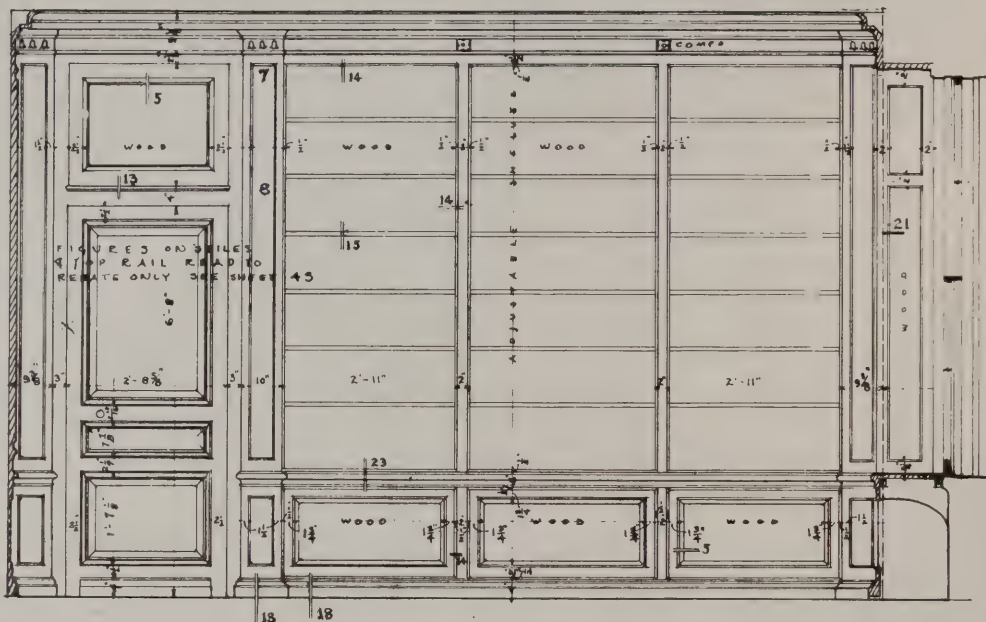




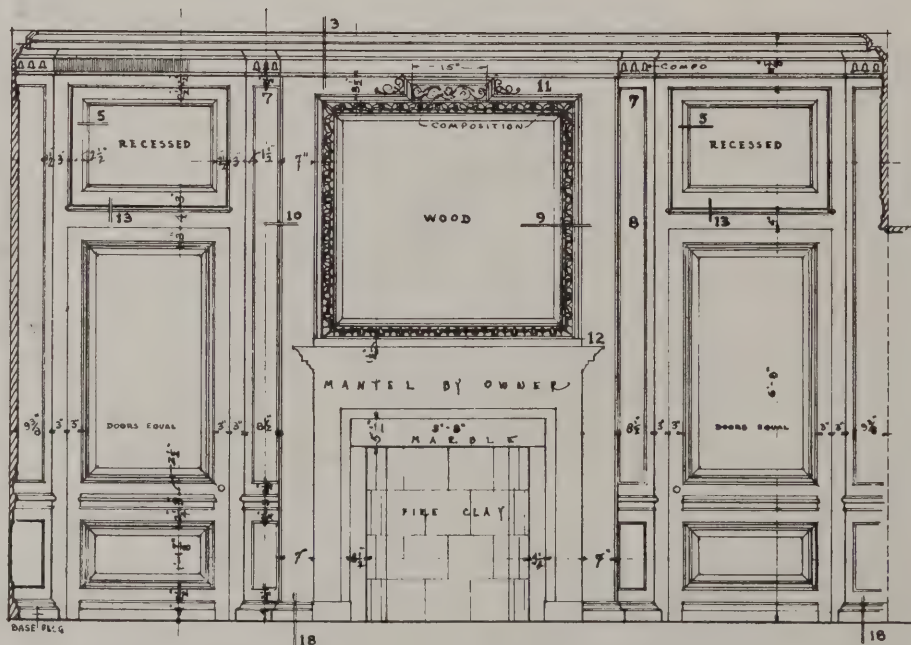
CORNER OF LIBRARY, HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT

*Measured Drawing on Back*





SECTION CC



SECTION DD

DETAILS IN LIBRARY, HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT

OCT  
1926

No  
7

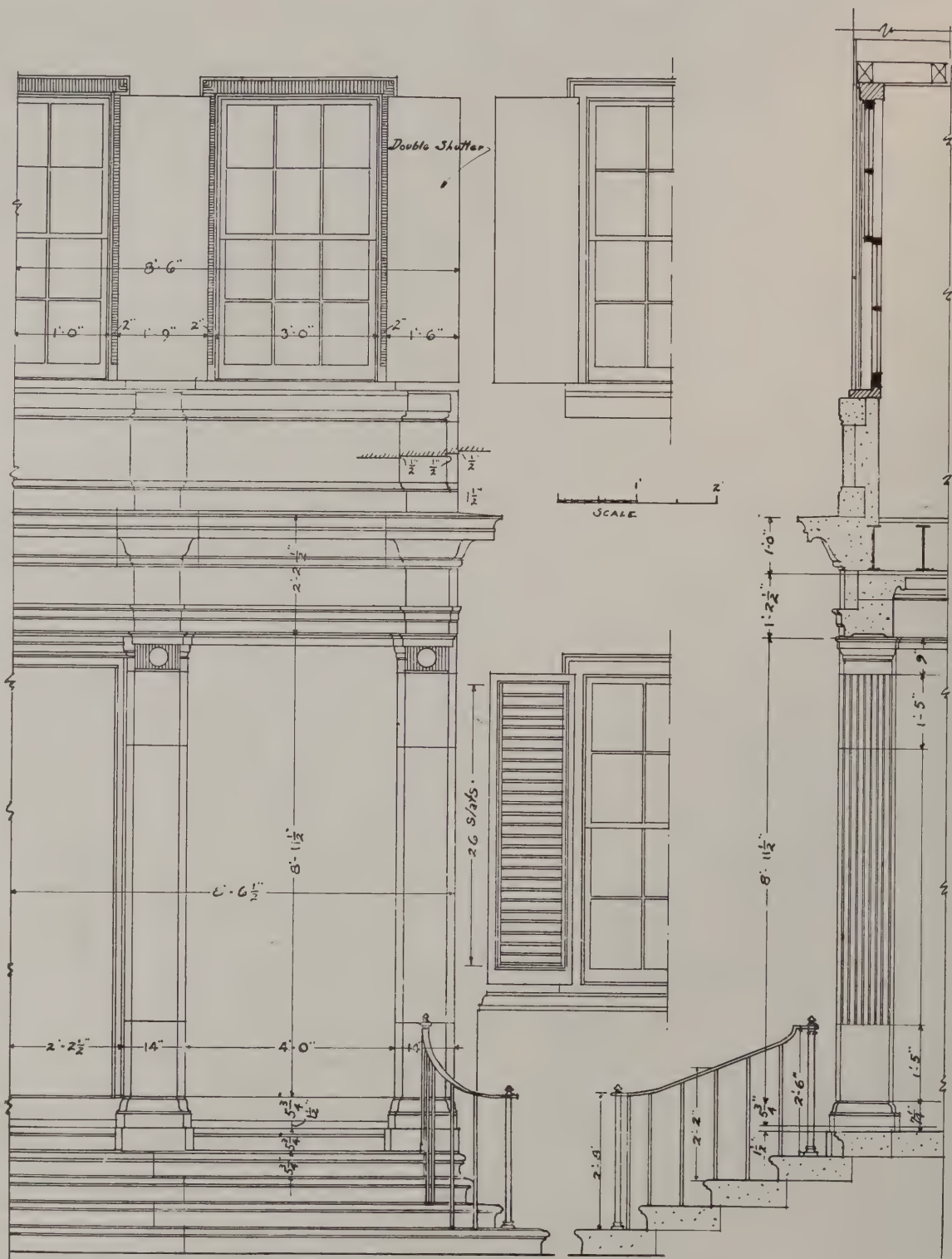
The ARCHITECTURAL FORUM DETAILS





LIBRARY FIREPLACE, HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT





ELEVATION

SECTION

DETAILS OF ENTRANCE LOGGIA  
HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT

OCT  
1926

No.  
8

The ARCHITECTURAL FORUM DETAILS





DINING ROOM FIREPLACE, HOUSE AT CHESTNUT HILL, PA.  
EDMUND B. GILCHRIST, ARCHITECT



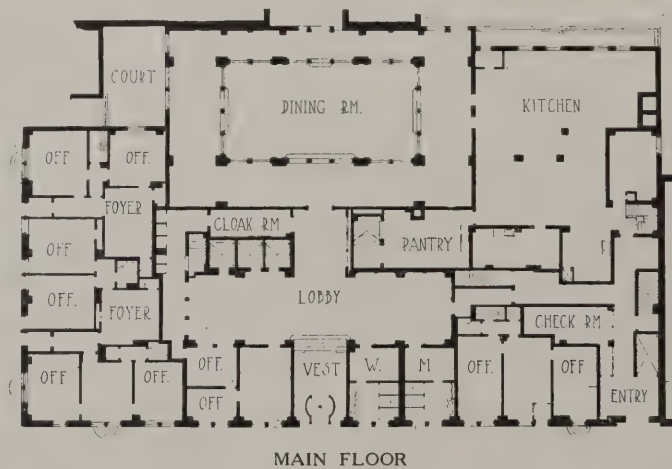
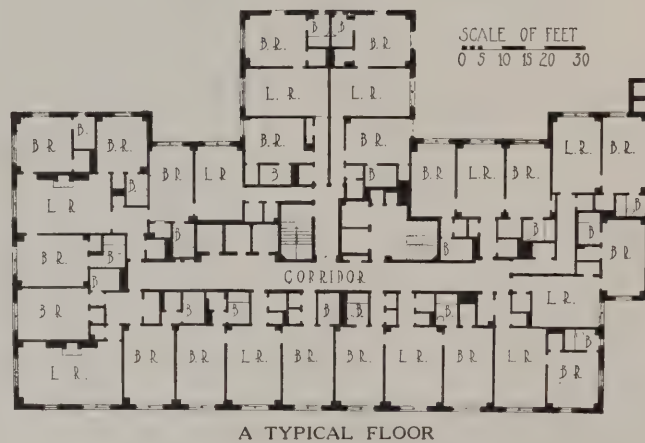




*Photos. Amemiya*

MAYFAIR HOUSE, NEW YORK  
J. E. R. CARPENTER, ARCHITECT

*Plans on Back*



J. E. R. CARPENTER, ARCHITECT





THE DINING ROOM, MAYFAIR HOUSE, NEW YORK  
J. E. R. CARPENTER, ARCHITECT







ELEVATOR DOORS



IN THE LOUNGE

INTERIORS, MAYFAIR HOUSE, NEW YORK  
J. E. R. CARPENTER, ARCHITECT







THE LOBBY, MAYFAIR HOUSE, NEW YORK  
J. E. R. CARPENTER, ARCHITECT





# Bank Alterations

By HORACE S. LUCKMAN

WHEN the business of a bank increases to such an extent that radical changes have to be made in order to provide more space for its various departments, one of the most perplexing of the many problems that present themselves is that of carrying out the work so that the regular routine of business is not interfered with. It sometimes happens that temporary space can be obtained in an adjoining building, in which case it is a comparatively easy matter to fit this area up with temporary fixtures and have the banking equipment transferred thereto over a week end. More often however, it is required that existing departments be enlarged, thus necessitating the removal of certain departments to a different part of the premises and careful management of their requirements.

In either case certain fundamental principles have to be observed. "Security First" must be the watchword at all times. In arranging for temporary quarters or conditions, money and securities, whether being transferred to various departments or kept therein, must be so protected that there can be no danger of their being lost or mislaid. Small apertures where a check could slip through to the back of a counter must be carefully sealed in the temporary equipment, just as in the permanent structure; proper and convenient contact must be maintained between the officers of the bank and the various departments. Passageways must be amply lighted and guarded so as to ensure the safety and convenience of depositors during banking hours, and the premises must be properly enclosed at night in such manner

as to render them reasonably safe and secure. For this reason it is necessary, before commencing operations, to formulate certain methods of procedure, outlining in detail the manner in which the different departments of the bank are to be transferred to or housed in one part of the premises, while the work of remodeling is proceeding in another; also how, when, and where temporary partitions are to be erected and re-arranged, materials delivered, and access to stairways, elevators, and exits maintained.

The American Trust Company, with which is affiliated the New York Title & Mortgage Company, maintains, in addition to its main offices at 135-141 Broadway, New York, branch offices at 41st Street and Madison Avenue; Montague Street, Brooklyn; Long Island City; Jamaica, L. I.; and will shortly open an office at St. George, S. I. The rapid growth of this institution has rendered it necessary to make extensive changes in practically all of its offices at various times. The most recent of these has lately been completed at its main office, 135-141 Broadway, where entire rearrangement and extension of its quarters have made it one of the most attractive banking rooms in the financial district. It ranks as an unusually successful alteration.

The old banking room at 135 Broadway was confined to a space on the main floor about 24 feet wide by 140 feet long, the only entrance to the bank being obtained through the main elevator hall of the building. This hall gave direct access to the main concourse of the bank, so that the tellers' cages and officers' quarters were arranged along the outside



Main Concourse, American Trust Co., 135 Broadway, New York  
Horace S. Luckman, Architect



Officers' Space, American Trust Co., 135 Broadway, New York

or southerly wall. In the new arrangement this has been entirely reversed, and the public concourse placed along the outside wall with a direct entrance to it from Broadway, not only giving better light and ventilation for the cages on the inner side of the room, but also making a far more attractive and efficient banking layout. It has proved to be convenient.

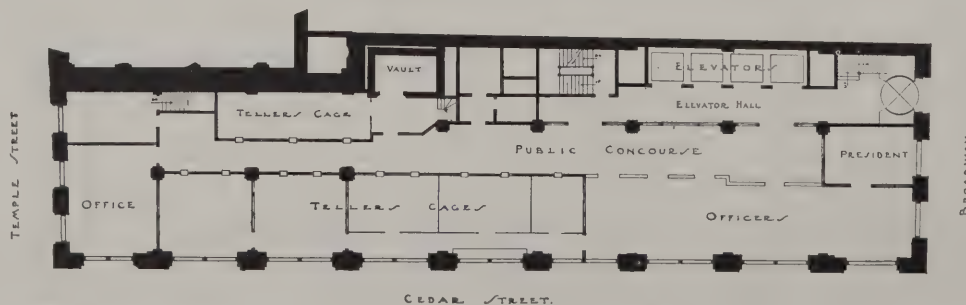
In order to obtain increased floor area it was decided to break through to the rear portion of the adjoining building so as to extend the room around to what is now called the Liberty Street end. The manner in which the alterations had to be carried out without interfering with the business of the bank presented an interesting problem. The Liberty Street end was fitted up with temporary cages and officers' quarters, and the large openings which were eventually to be used for connecting the two buildings were cut through. The old quarters were vacated on a Saturday, and by the following Monday morning the bank was installed ready for business in its temporary quarters. In the meantime a temporary passageway had been provided leading from the entrance on Broadway to this space. The

work of remodeling the Broadway and Cedar Street side of the room was then begun, and as soon as this was completed the bank was again transferred back to this space and the work of remodeling the Liberty street end completed, according to schedule.

The general treatment of the interior is in simple Italian design with polished marble wainscot around the walls, open marble railings at officers' spaces, marble and bronze banking screens, plain plaster walls, and paneled plastered ceiling. The wainscot and railings are of marble with a black and gold marble base; the floor is of a selected colored rubber tile, laid in herring-bone pattern; bronze work of banking screens, president's office and conference room has a slightly oxidized finish to blend with the marble; the walls are painted a soft gray, and the ceilings are finished in old ivory with the high lights of the enrichment picked out in gold. The general effect is of soft tones without any lavish display of color, in fact even the gold is toned down to such a subtle shade that its use is merely employed as a means for bringing out the beauty and scale of the enriched ornament without becoming too prominent.

Another interesting alteration completed a little over a year ago was that of converting the former Thompson residence at the corner of Madison Avenue and 41st Street into a branch bank for the same institution. The interior of this building was of such beauty and elegance that it was decided to maintain the original atmosphere as far as consistent with the requirements of the bank. The original structure consisted of the main portion of the house, extending back about 50 feet on 41st Street with a three-story extension in the rear. The general arrangement was similar to that of the usual American basement residence, with entrance hall on the first floor and stairs leading to a reception hall, drawing room, and dining room on the second. The exterior of the building was entirely faced with Indiana limestone and possessed a most dignified appearance.

In order to make proper arrangements for the bank, the rear extension was removed and the main building extended back to cover the entire plot; the old stone facing was thoroughly cleaned by a sand-blasting process, and the new stone carefully selected so that it is almost impossible to tell where the old



Plan of Old Banking Room, American Trust Co., 135 Broadway, New York



work ends and the new begins. The interior was dismantled, and all materials which were to be re-set or re-used were stored for safe keeping. A portion of the second floor was cut away, the remaining portion forming a mezzanine balcony over the tellers' cages, this space being used by the officials of the bank, giving at the same time architectural dignity.

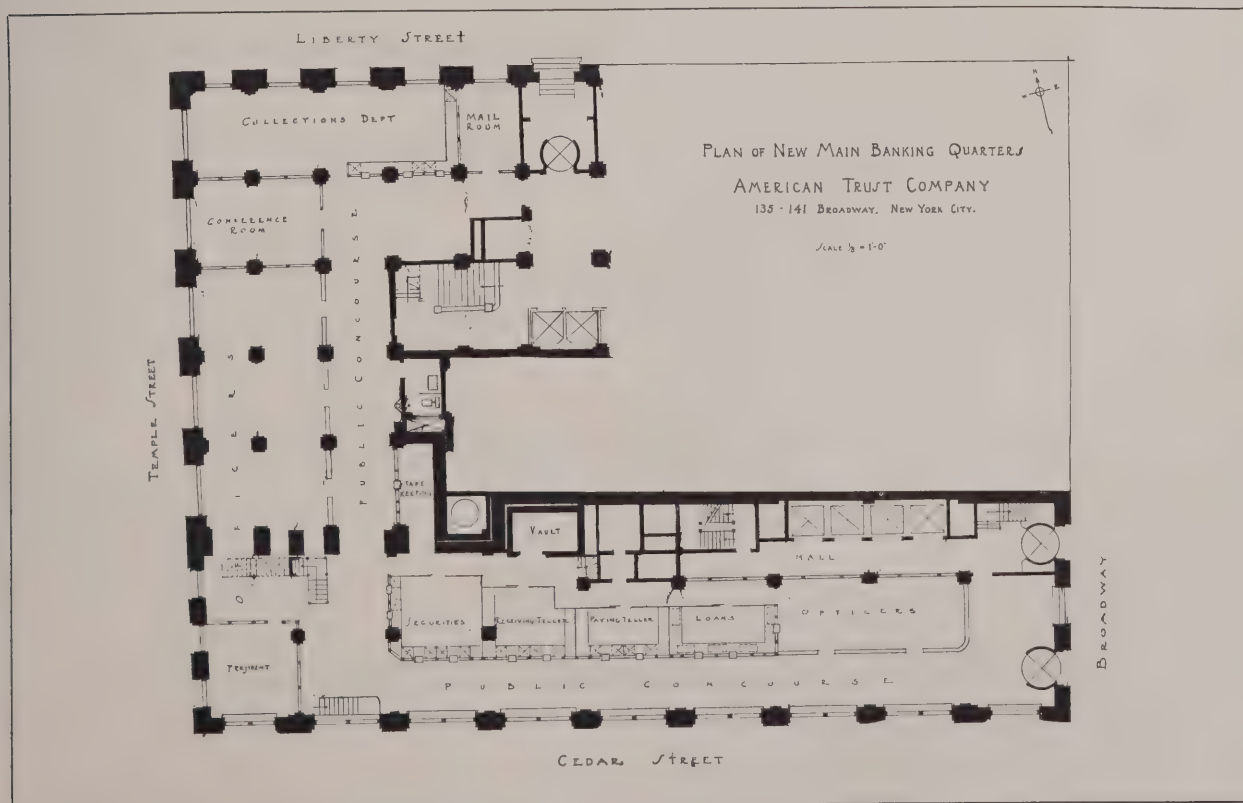
The original oak paneling on the walls of the billiard room was remodeled and re-used for the first floor portion of the banking room, and the banking screen, which was executed in oak and bronze, enclosing tellers' cages, was designed to match. A new curved stairway leading to the mezzanine balcony was built, and the bronze balusters of the original stairway re-used for these stairs as well as for the railing of the balcony. A carved teakwood newel taken from the original building was also re-set at the foot of this stairway. A carved oak over-door, which originally stood at the doorway leading from the dining room to the reception hall, was re-set at the far end of the balcony, and a large mirror installed for the purpose of giving an air of spaciousness to the room. The original carved teakwood doorway leading into the drawing room from the reception hall was left intact, and a corresponding doorway leading into the dining room was re-set at the front end of the balcony in order to give access to what is now a very well arranged directors' room.

In the alterations required for the Brooklyn office of the American Trust Company, the premises to be remodeled consisted at that time of a two-story store and office building with a street front of classic de-



Midtown Branch, American Trust Co.  
Horace S. Luckman, Architect

sign executed in cement stucco. The floors were of wood construction, so that a series of steel beams and columns had to be installed in order to support the marble banking screens and railings. The new marble staircase leading to the offices on the second floor was supported on a reinforced concrete slab formed with treads and risers and a curved soffit shaped to conform to the run of the stairs. The stucco work of the front was removed, the brick





Stairs to Mezzanine, Midtown Branch, American Trust Co.



Plan, Midtown Branch, American Trust Co., New York

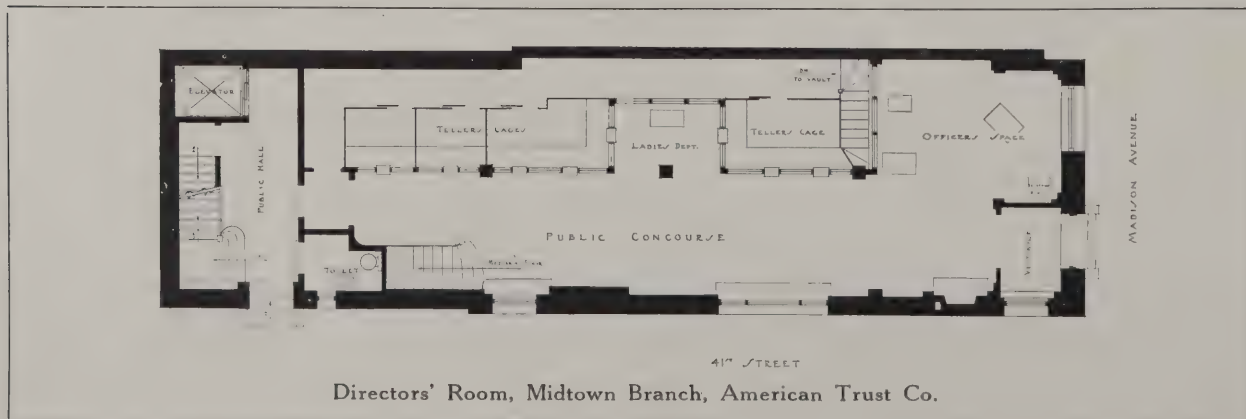
backing cut away for a depth of 6 inches, and an ashlar of marble 5 inches thick built up and securely anchored in place, thus giving an entirely new facing.

The general treatment of the interior consists of marble wainscot, railings, and staircase, marble and bronze bank screens, mottled gray tile floor, and American walnut doors to harmonize with the specially designed walnut furniture of the officers' quarters. The original cast iron columns on the interior were clothed with plaster columns, octagonal in shape, having ornamental caps supporting a paneled and ornamented ceiling appropriate to the place.

The greatest difficulty encountered in this alteration was that of making the new design tie in with conditions as they existed. Due to the fact that some of the existing iron columns were slightly off center, adjustments had to be made to bring the beams of the paneled ceiling into proper alignment with the plaster columns and the marble work of bank screens. In order to do this the bolts securing the steel beams supporting the marble bank screens and railings were set in slotted holes, so that they could be moved in either direction as required. Four columns, which straddled the original stairway in

the center of the building and could not be changed without considerable expense, were made to complete the design of the room by making the entrance to the officers' space between one pair, while the other two were tied together by hanging a handsome bronze clock between them and building around them a check desk required in the banking room.

A reinforced concrete safe deposit vault was built in the rear of the banking room under the roof of a one-story extension of the building. In order to make the vault structure burglar- and fireproof, as well as entirely independent of the building, it was built on its own foundation, the roof of the vault being about 12 inches below the roof of the extension. Above this level an opening was formed in the existing roof and brick walls built on top of the vault forming a parapet about 4 feet high; an additional reinforced concrete roof covered with sheet copper was placed above the vault, thus providing not only double protection at this point but also an air space for the purpose of overcoming the difference in temperature between the air in the vault and that on the outside of the building. Openings were cut in the side walls between the roof of the



Directors' Room, Midtown Branch, American Trust Co.



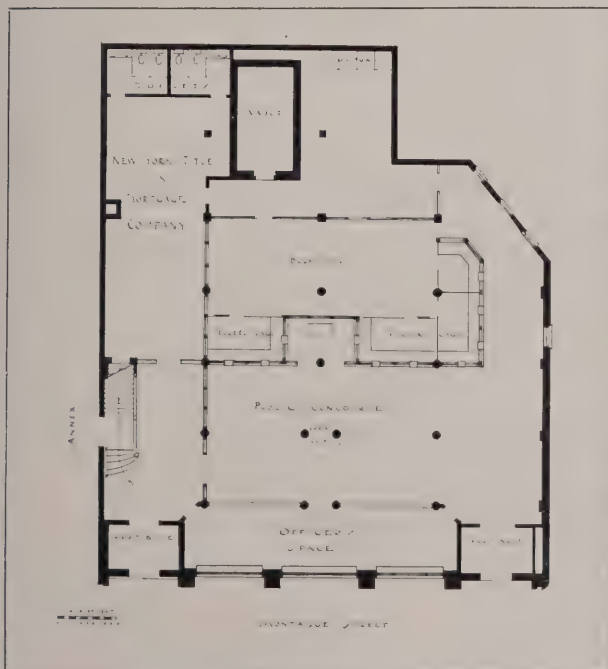


Brooklyn Office, American Trust Co.  
Horace S. Luckman, Architect

vault and the ceiling of the extension in order to permit the warm air of the room to circulate through the space between the two roofs of the vault, and a steam pipe connected with two radiator branches was inserted in the space for the purpose of maintaining a fairly even temperature in cold weather.

The same institution is making extensive changes at the present time to its Jamaica office, where a seven-story addition is being erected adjacent to the

present building. In the completed layout the elevators will be moved back into the new building and an additional freight elevator installed as well as an automatic elevator from the banking floor to the safe deposit vaults in the basement; the present entrance hall will be enlarged, and a bronze and glass screen will be installed to divide it from the bank. The present wall between the old and new buildings will be removed for its entire height, thus



Plan, Brooklyn Branch, American Trust Co.



Banking Room, Brooklyn Branch, American Trust Co.

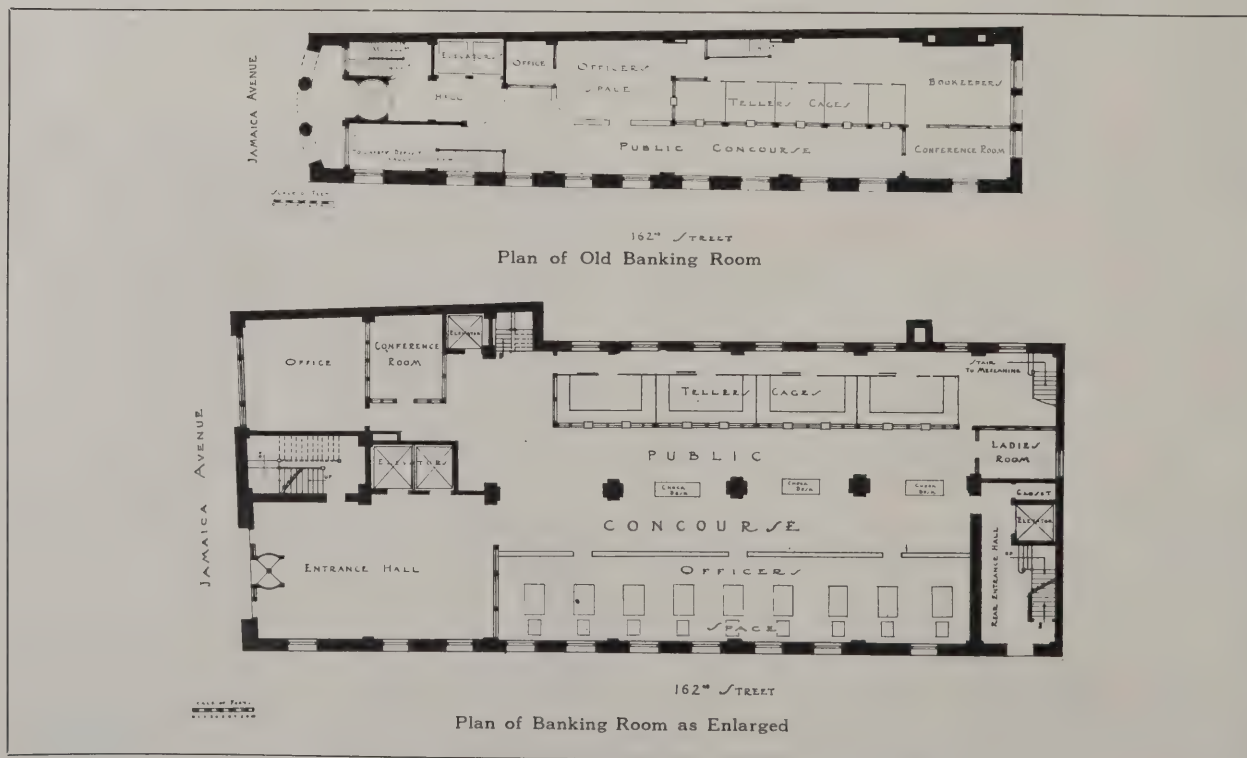
permitting large areas on all upper floors which can be subdivided for offices as required. The bank will occupy practically the entire ground floor, with safe deposit vaults in the basement; the Title Company will occupy the second floor of the building.

The schedule of operations calls for erecting the new addition up to a point where the building is enclosed; the dividing wall will then be removed, and the elevators re-located at different times so that at least one elevator will always be in service while the other is being installed. The new side of the banking room will be entirely completed and the bank temporarily transferred thereto while the present equipment is being dismantled and the remaining portion of the room being completed; a temporary entrance will also be provided leading directly into the new side of the banking room while the present entrance hall is being remodeled. New stairways and lavatories will be installed, so that proper means of egress and wash room facilities are at all times available. These various operations will be worked out according to a pre-arranged and definite schedule.

In the matter of awarding contracts, the interior marble, bronze work, electrical work, counter work, painting and decorating have generally been kept separate; in this way it has been found that a better understanding of the requirements of the architect is formed by specialists in these particular trades. Stock sections of some of the bronze manufacturers can be readily adapted in various ways; details, designs, and finish of marble work can be more easily worked out; materials for finished flooring can be more carefully selected or changed if desired; elec-

tric outlets and equipment can be modified, arrangement of counters and pedestals can be more accurately determined so as to conform to the requirements of each department; and a better color scheme can almost invariably be secured by working with a decorator who is familiar with the ideas of the architect. In these ways, too, the cost of the operation can be kept down to a minimum without in any way sacrificing the beauty or dignity of the design.

In conclusion it might be mentioned in connection with alterations of this character, that a great deal of time can be saved and mistakes avoided by making a careful survey and taking accurate measurements of the premises before making drawings for the new work. Existing walls and partitions are not always parallel or at right angles to one another; column centers may vary so that marble and bronze have to be manufactured accordingly. The floor construction, if of wood, should be carefully examined to see whether the ends of beams bearing in the walls have been seriously weakened through dry rot; floors may be out of level and the low points have to be raised; all plumbing, steam, or water pipes coming at inaccessible positions above or adjacent to safe deposit vaults should be diverted; rear windows and skylights should be protected by heavy iron grilles; in fact each particular job will present difficulties which are not necessarily met with in the design of a new building. They should, however, in no way affect the carrying out of the work in a satisfactory manner, if provided for at the right time, and such planning is one of the parts of an architect's service.



Plans, Before and After Alterations, Jamaica Office, American Trust Co.

Horace S. Luckman, Architect



# THE BUILDING SITUATION

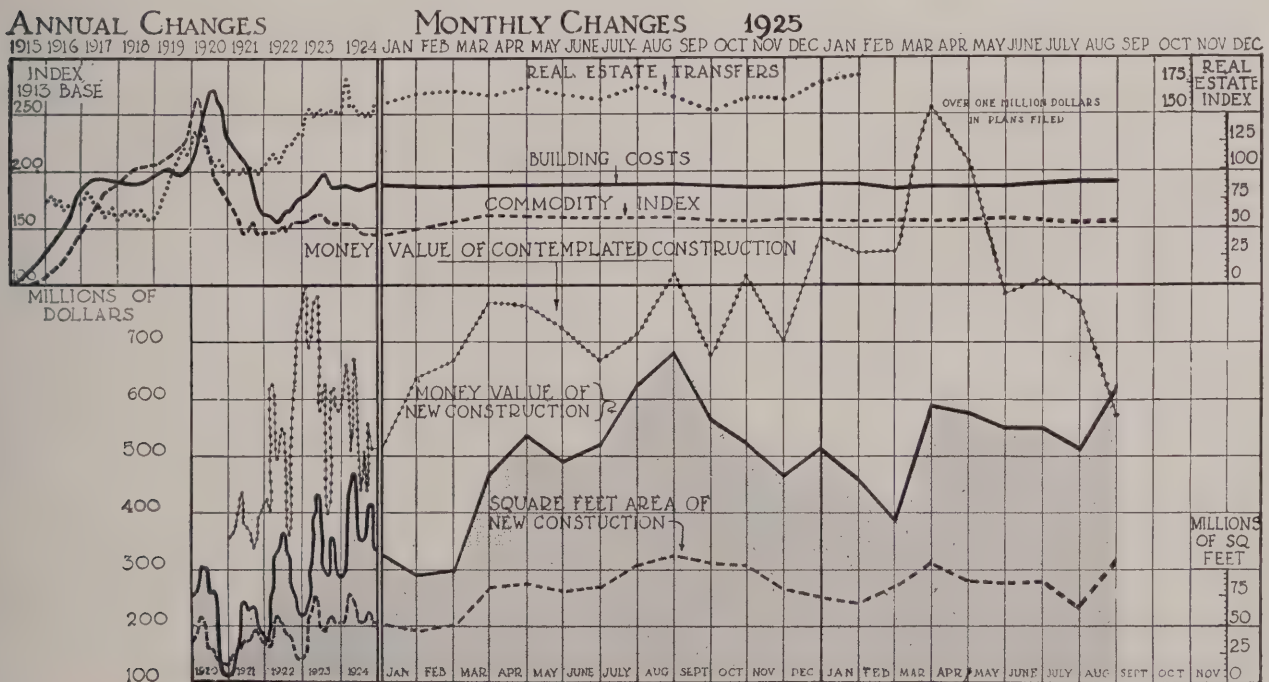
## A MONTHLY REVIEW OF COSTS AND CONDITIONS

THE building figures for the month of August, as reported by the F. W. Dodge Corporation, are extremely interesting and offer much food for thought. The total value of construction contracts let during the month of August almost equaled the record-breaking figures for August, 1925.

The figures for contemplated new construction (plans filed) are lower than reported for many months, being actually less than the total amount of contracts awarded, a condition far from normal and consequently demanding some explanation. This matter was taken up with a number of architects and builders, and it is evident that many plans are being held on the boards for the purpose of considering new projects even to the point of filing plans. This is probably a temporary situation,—a pause for breath on the part of investors before rushing into another year's program. There is no indication that these plans will be permanently withheld from the market or that they will be kept in abeyance for even a short period. Huge quantities of new building space are still in demand, and general business is prosperous enough to pay the price, so that in all probability the

months of September and October will show large filings, bringing the average perhaps to record proportions. It is quite evident that we are approaching the time when building activity will begin gradually to reduce toward its stabilization at a new normal. Obviously the new normal will be at least 50 per cent or even higher than the old normal, known before 1915. From an economic viewpoint, a reduction of the building program to a fairly well stabilized volume will be a good condition, provided it is arrived at gradually and not by the reaction of a sudden suspension of interest on the part of investors in this field.

Funds for mortgage financing are still ample, and the confidence of the investing public is still sustained, even though disturbed temporarily by the recent failure of one of the large mortgage companies. That particular failure is not significant and indicates no weakness in this field of financing as long as good judgment is exercised and well controlled amortization features are maintained to offset any physical depreciation or falling off of replacement costs, which naturally affect appraised values and must be carefully considered by investors.



THESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs*. This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index*. Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction*. Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record*. (4) *Money Value of New Construction*. Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction*. The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.

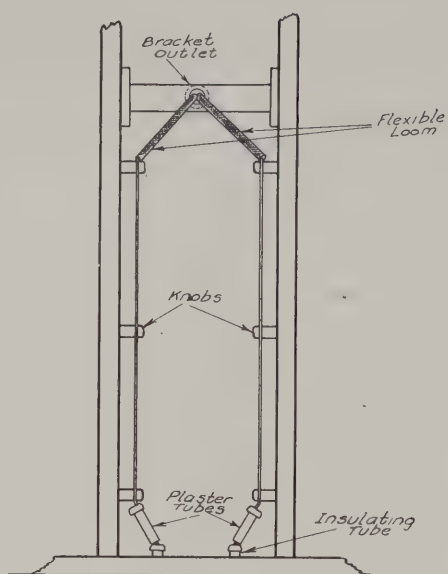


Fig. 1. Knob and Tube System of Wiring

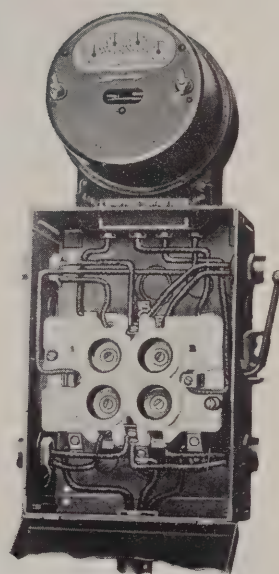


Fig. 4. Main Switch Box and Meter

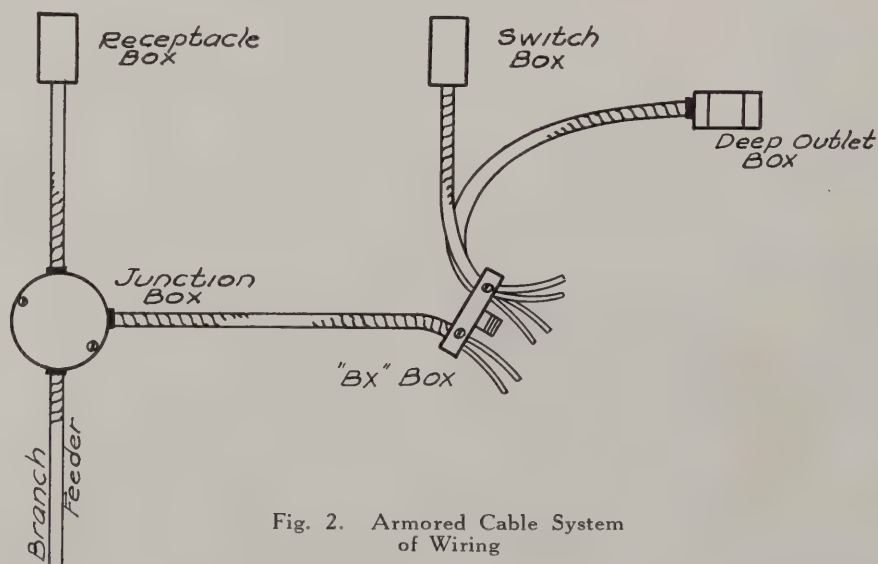


Fig. 2. Armored Cable System of Wiring

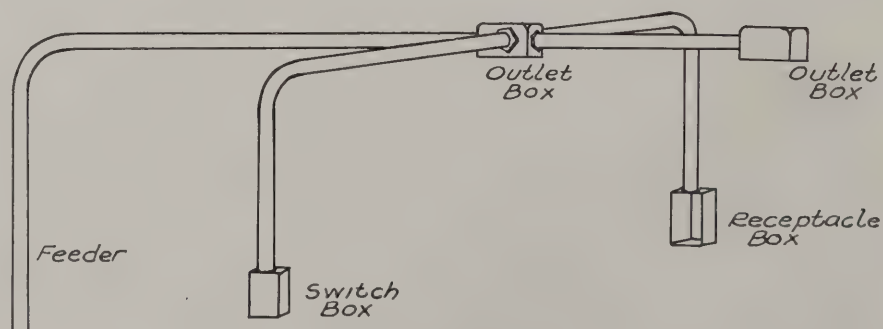


Fig. 3. Section of Conduit System of Wiring



# ENGINEERING DEPARTMENT

## Electrical Systems in the Residence; Part I.

By J. H. KURLANDER

IT can be safely said that the things we most depend upon are the things we least appreciate, the implication being that as long as anything functions satisfactorily, we accord it but little thought. This item of dependability is important, particularly in the case of electrical systems and devices in residences, since it can be presumed that the average man about the house lacks the necessary mechanical or technical bent wherewith to maintain the more complicated accessories which, more than ever, form a part of the equipment of modern residences. It is clearly the duty of the architect, when planning the electrical systems of such types of structures, to cover all possible contingencies which might arise in the ordinary course of service, thereby placing no temptations in the path of inexperienced persons to make additions to inadequate wiring systems.

Widening fields of application in the use of electricity make it advisable to provide plenty of reserve.

*Methods of Wiring.* Safety should be the keynote of any wiring system. The next moving consideration should be the adequacy of the number of utility and lighting outlets.

It is a tribute to the comparative safety of electricity, when properly used, and the diligence of the fire underwriters in supervising the safe installation of electrical systems in the country's municipalities and urban localities, that the percentage of fires having their origins in defects in electrical systems is remarkably low. As safe as electricity is when confined to its proper channels, it can be even more than destructive when carelessness in insulating the conductors, or false economy in providing accessories of insufficient capacity is tolerated in the construction of the system. It is, therefore, of primary importance that the strictest caution be exercised in permitting the use only of the highest quality equipment,—that which bears the stamp of "approval" of the fire underwriters. All "approved" devices are those which are acceptable to the electrical inspection department having jurisdiction.

There are in use today three distinct types of wiring systems classified according to the method by which the conductors are supported and carried from place to place through the structure. They are (1) Knob and Tube; (2) Armored Cable; (3) Conduit. They are given in the order of relative cost, safety, and durability, though the last named item is a factor on which little need be said.

An electric wiring system, to give a very simple

definition, consists of two wire conductors across which the various electrical devices in the form of lamps, heaters, fans, etc., are connected. One of these wires, ordinarily, is broken by suitable switches controlling the separate devices. Current is conveyed to each device by one wire and returned to the generator by the other, thus traveling in a loop between the residence and the electric service station. It goes without saying that these two wires must be insulated from each other to the highest degree so as to confine the flow of electricity to the prescribed path. To this end, each wire is first encased in a continuous rubber sheathing over which is laid a braided cotton covering impregnated with an insulating solution such as paraffin wax, or a tarry substance. Here ends the similarity in the three systems.

*Knob and Tube Wiring.* Briefly, the "Knob and Tube" system consists of supporting the wires by means of porcelain knobs on horizontal or vertical runs, and by means of porcelain tubes when passing the wires through floors, studs, etc. Split knobs are used for the purpose, so that the wires can be drawn taut when clamped in position. There is then no possibility of the wires' sagging and touching the woodwork. Every precaution is taken to thoroughly insulate the wires from one another, and wherever they must come within touching distance, such as when led into a switch box or outlet, flexible loom tubing, having special insulating properties, is used to encase each wire. The general scheme of installing a "Knob and Tube" system is illustrated in Fig. 1, which shows the wires rising through the floor to a wall bracket outlet supported between the studs. This method of wiring, compared with others, is relatively cheap as far as concerns material, but it requires more labor than the Armored Cable method, since both wires must be separately insulated and each must have holes drilled for it when passing through obstructions. Furthermore, it is subject to the depredations of mice and rats and accidental injury when effecting repairs to the house. While in past years it was the most widely used method, it is now rapidly giving way to the Armored Cable method, which costs practically the same in these days of high labor and which offers more protection and better means for concealment in places where space is limited, and hence is frequently used.

*Armored Cable Wiring.* Armored cable, commonly referred to as "Bx," offers admirable means for obtaining a high degree of safety at a very rea-

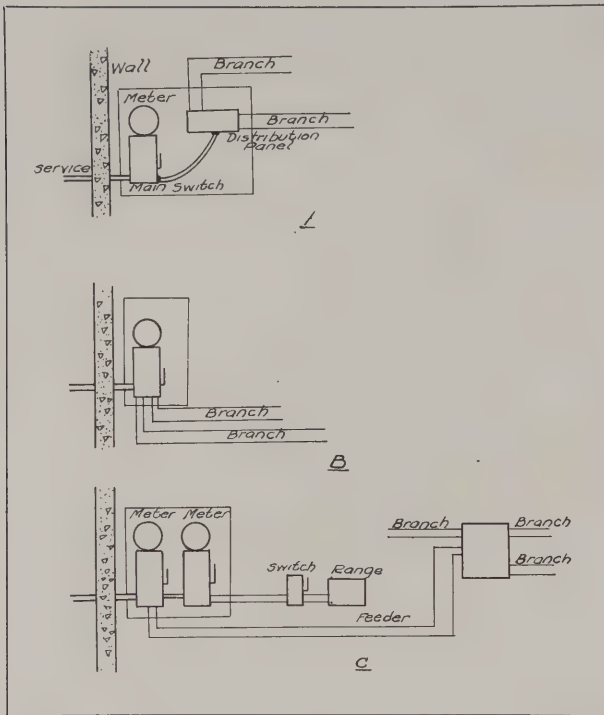


Fig. 5. Illustrating Three Methods of Current Distribution After Leaving Main Switch and Meter

sonable cost and is, therefore, being largely used. Indeed, a large number of municipalities prohibit the use of "Knob and Tube" wiring in the business districts, so that armored cable and conduit must necessarily be used. Armored cable consists of two wires, each covered with rubber and a braided sleeve. Both are contained in a common sleeve of braided cotton soaked in paraffin wax, and the whole is then protected by a spirally wound sheath of heavy soft steel having its edges interlocked to form a continuous tube, thus giving it the desired flexibility without impairing the ruggedness which its use demands.

No special precautions are necessary to insulate it when concealing it in partitions and floors, holes being drilled and the cable then merely pulled through to the desired outlet locations. On vertical runs along brick walls it can, if necessary, be embedded directly in the wall itself. Special armored cable, oval in shape and quite thin, has been developed to meet just such needs. As used in the wiring system, each run of cable has its origin and it also terminates in a metal box. This is illustrated by Fig. 2, which shows a section of such a system and the methods of effecting junctions in the line. It will be seen that the entire wiring system is encased in metal, thus offering a high degree of protection from mechanical injury and confining any arc or fire which may result from failure of the equipment.

In order to prevent, as far as possible, such accidents, precautions are taken to insure against the insulation of the wires being chafed or otherwise damaged. Where the cable runs into a junction box, a special clamping collar, threaded on one end, securely grips the cable, after which the threaded end

is inserted through a hole in the junction box and held rigidly in position by a locknut. When entering switch and receptacle boxes, a smooth brass ferrule is threaded onto the end of the cable sheathing, after which this protected end is inserted through a hole in the box and clamped into position by means of a clamp and a screw supplied as a part of the box. The jagged ends of the cable sheathing cannot vibrate and injure the insulation.

*Conduit Wiring.* Conduit wiring is not generally used for residences, except where wiring costs are not too closely scrutinized, since it entails considerably more expense for materials and labor than either of the other methods. When once installed, however, it can be considered as being permanent, and it affords the maximum protection for the wiring as it cannot be injured easily or tampered with. Furthermore, the current-carrying capacity of the system can be increased in a relatively easy manner, since the old wires are readily withdrawn and larger wires substituted. This is not true of the other systems.

Conduit wiring is similar to the Armored Cable method, since it, too, encases all the current-carrying wires and the various switches, receptacles, etc., in an unbroken channel of protective metal. The principal difference lies in the fact that whereas conduit is rigid and must be installed after the manner of steam pipes, water pipes and gas pipes, armored cable, by contrast, is quite flexible and readily lends itself to rapid installation, since it can be quickly threaded through holes in beams and studs, or nailed into place by means of pipe straps.

A small section of a conduit system is illustrated in Fig. 3 and shows the manner in which the various outlets are fed with current. As with the Armored Cable method, so with conduit; no splices in the wires are permitted in a concealed system except in the outlet boxes. This, of course, in the interests of safety.

*Metal Moulding.* No mention has been made of metal moulding, as this is ordinarily used for extensions to existing installations where it is undesirable, or impracticable, to conceal the wiring beneath floors and in partitions. Indeed, it does not constitute a form of concealed wiring and it cannot be used in such a manner. Its application in residences, therefore, is strictly limited to those places where appearance is not a primary consideration.

*Service Connections and Distribution Methods.* The residence types of wiring systems can be divided into three principal parts: (1) the point of service entrance, where the meter board, supporting the meter, disconnecting switch, and distribution panel box, are located; (2) the local points where the current is used to operate the various lamps, heating devices, etc., supplied by branch circuits; and (3) the feeders connecting these local areas with the source of current supply at the meter board.

Briefly, these three parts function in this manner: The service wires, encased in conduit, are led into the building, usually through the basement wall, and immediately enter an externally operated, enclosed



safety switch of approved form (Fig. 4). The main fuses (30-ampere usually) are contained in this switch box, one or two being used, depending upon whether or not the wiring is "polarized." After passing through the switch and fuses, the service wires go to the meter, which is placed directly above the switch box so that its lower end projects slightly into the box. In finished form, the meter and switch box constitute a complete unit, exposing no connecting wires. The switch box is then sealed by the electric service company to prevent tampering.

The current is now ready for distribution through the house, and one of several methods, illustrated in Fig. 5, may be employed. Scheme A shows a commonly used method. The system is divided into as many branch circuits as may be required (each limited to 15-ampere load) which terminate, at the meter board in a panel box containing either one or two plug type fuses of 15-ampere capacity for each circuit. This panel box is then fed directly from the meter. The principal objection to this method is that the burning out of a branch line fuse necessitates a trip to the basement. In order to avoid this inconvenience the panel box with the fuses is frequently placed in an upper hallway or room to make it readily accessible (Fig. 5-B). Since it is then in a more conspicuous location, it is becoming the practice to use a "dead front" type of panel box similar to that shown in Fig. 6. Aside from presenting a better appearance, all the live parts are protected from accidental contact with one's person. There has recently appeared on the market, for use with "polarized" systems, a new type of main safety switch in which the functions of safety switch and panel box have been combined. The branch plug fuses, either two or four in number, one for each circuit, are contained in this switch box along with the main fuse. The branch lines then go directly from the switch box to their prescribed places as indicated in Fig. 5-C.

It is the writer's understanding that certain electric service companies make a practice of separating the residence load into these four different divisions:

(1) Lighting; (2) Primary heating devices, such as ranges; (3) Refrigerators; (4) Power (motors totaling more than 0.5 horse power). More favorable rates for power are offered for the larger current-consuming devices and according to their constancy of operation. To take advantage of these lower rates it is necessary to have installed a separate meter for each class of service. The separation of the main circuits into these various primary feeder circuits occurs at the meter, and Fig. 5-B illustrates how this is accomplished. This shows an electric range, supplied from its own individual meter, which in turn is fed from the main circuit through the principal disconnecting safety switch.

*Recommendations for Residence Circuits.* It goes without saying that the number of lighting and utility outlets in any residence should be adequate in the broadest sense of the word. Current-carrying

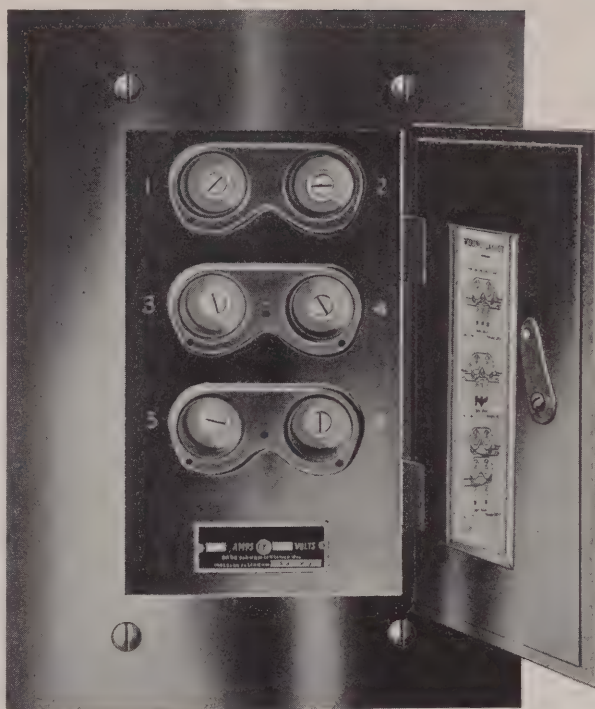


Fig. 6. "Dead Front" Type of Panel Box, Used With System of Current Distribution Illustrated by Fig. 5-B

wires, concealed in partitions and beneath floors, cannot possibly be of service unless means are available for tapping the energy they carry. In recommending outlet locations in residence circuits, the writer can think of no better suggestion than those given in the Red Seal Wiring Plan prepared and approved by the Electrical Extension Bureau of Detroit, and the Society for Electrical Development.

These suggestions, which are drawn up in the form of specifications, provide *minimum* requirements for adequate wiring. They are considered as a reasonable standard and are based on a study of the facilities which should be available in the home today. They are thus given in detail:

*Living Room.* One ceiling light outlet, controlled by wall switch. Two three-way switches for room with two main entrances located more than 10 feet apart. One bracket light outlet for every 15 feet of wall space, including openings, controlled by wall switch. Where there is a mantel shelf, two mantel outlets shall be provided on the shelf unless there are two bracket light outlets above the mantel. One convenience outlet for every 12 running feet of wall.

*Dining Room.* One ceiling light outlet controlled by wall switch. Two three-way switches for a room with two doorways more than 10 feet apart. All dining rooms having 44 or more running feet of wall space, including openings, shall have one bracket light outlet for every 20 running feet controlled by wall switch. One convenience outlet for every 15 running feet of wall space, including openings. One floor plug under dining table.

*Kitchen.* One ceiling light outlet controlled by wall switch. One light outlet over sink. Two single

convenience outlets, certain to be needed for utilities.

*Bedrooms.* One ceiling light outlet controlled by wall switch. All bedrooms having 44 or more running feet of wall space, including openings, shall have one bracket outlet for every 20 running feet. One convenience outlet for every 15 running feet of wall space, including openings.

*Coat and Clothes Closets.* One light outlet each for closets of over 10 square feet area.

*Sun Rooms, Libraries, Pantries, Alcoves, etc.* One ceiling light outlet controlled by wall switch. One convenience outlet for every 15 running feet of wall space, including openings.

*Main Halls.* One ceiling light outlet controlled by wall switch. One convenience outlet.

*Stair Landings.* More than 30 square feet floor area shall have one light or convenience outlet.

*Bathrooms.* One bracket light on each side of mirror, controlled by wall switch. Bathrooms in excess of 72 square feet floor area shall have ceiling light outlet controlled by wall switch in addition to wall brackets. One heater outlet and one convenience outlet.

*Breakfast Room.* One ceiling light outlet controlled by wall switch. One duplex convenience outlet on separate circuit.

*Laundry.* One ceiling light outlet; one convenience outlet on ceiling near laundry tubs; one convenience outlet on separate circuit.

*Porches and Entdyways.* One light outlet controlled by switch in building. A covered porch 60 square feet area or over shall have one convenience outlet.

*Stairways.* All outlets lighting stairways (except to basements and unfinished attics) to be controlled by three-way and four-way switches as required.

*Basement.* Lighting to be controlled by switch on first floor operating one or more light outlets for general illumination in basement; one light outlet in front of furnace; one light outlet in fruit room; one

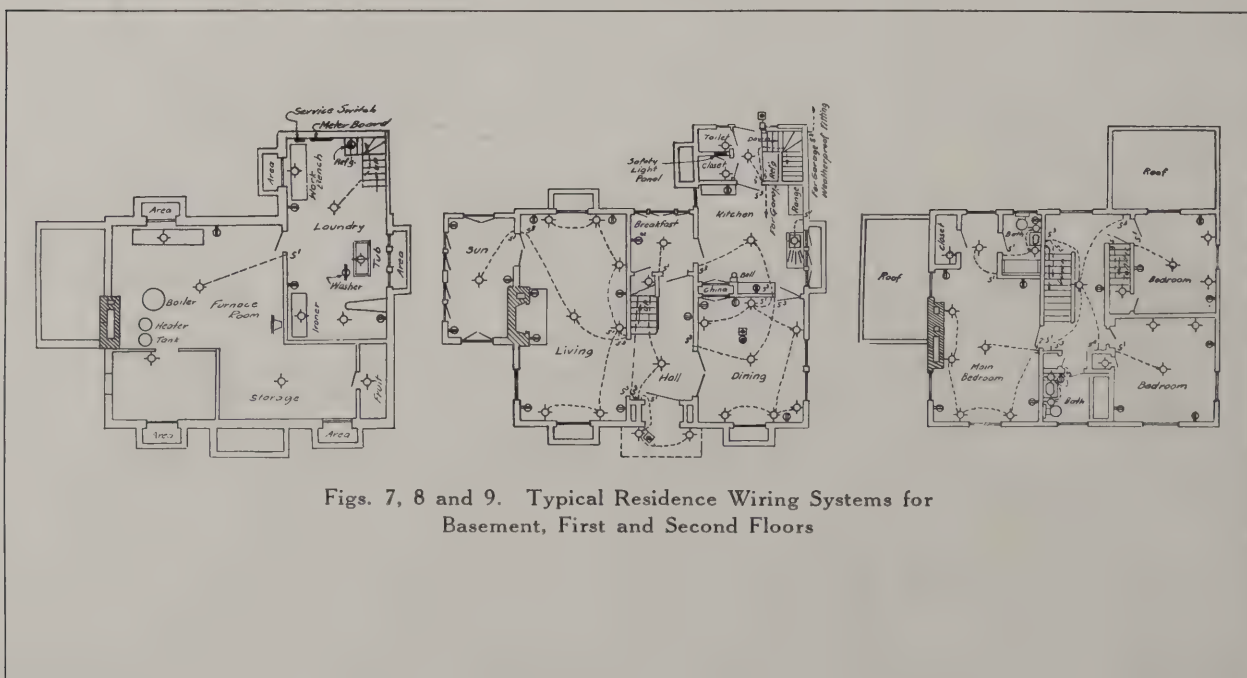
light outlet in coal room ceiling near door. (See also requirements under "Laundry" on this page.)

*Garage.* One ceiling light outlet controlled by switch; one convenience outlet.

*Locations of Outlets.* The height of the bracket lights to be in general 5 feet, 8 inches from finished floor. The height of switches shall be in general 4 feet from finished floor. Convenience outlets shall be in baseboard or not more than 14 inches, except in kitchen, 42 inches; bath and breakfast room, 36 inches above finished floor. Laundry ironing outlet to be 42 inches above finished floor.

*General.* Outlets must not be placed behind radiators or swing of doors. Push buttons at front, rear and grade doors to operate bells or buzzers from current to be provided by low-voltage transformer located on basement lighting circuit. Illuminated house number to be placed on front of house. All lighting outlets to be equipped with fixtures. At least two spare circuits are to be provided in panel for future use. All switches are to be flush type. When more than one switch come in the same location, they are to be gauged under one plate. Convenience outlets and plugs are to be flush standardized, interchangeable type.

*Recommendations.* It is recommended that 3 per cent of the cost of the building be allowed for lighting fixtures; that all convenience outlets, except in kitchen and laundry, be duplex (double); that all branch circuits be run to a dead front safety type residence panel—Edison plug type—containing all the necessary plug fuses; that hall switches have luminous devices, and that all bell or buzzer buttons be of cast brass; that an outlet be installed under the dining table to operate signal in kitchen; that rooms having more than one entrance shall have lights controlled by three-way switch; that garages have exterior lights controlled by three-way switch.



Figs. 7, 8 and 9. Typical Residence Wiring Systems for Basement, First and Second Floors



# An Old Greek Revival Court House

By THOMAS E. O'DONNELL

*Assistant Professor of Architecture, University of Illinois*

THE Greek Revival movement, which began in 1799 with the building of the Bank of Pennsylvania in Philadelphia by Latrobe, was a style admirably suited to public buildings. Not only in the east was it made the official style for public edifices, but especially in the middle west, which was being first developed between 1800 and 1850, the Greek Revival manner was most eagerly accepted as the correct style for all kinds of building, both public and private. The development of architecture in Ohio was very rapid, due to the ever-increasing population and wealth in the state during the first half of the nineteenth century. Many new towns and counties were founded. The "county," of Virginia, rather than the New England "town" system had been adopted in Ohio. This system of local government called at once for certain county administrative buildings, the most important of which

was the "court house," generally the first to be built.

The earliest court houses built were of a simple, post-colonial type. They were usually square in plan, two stories in height, with hipped roofs, at the centers of which were small cupolas or bell towers. The earliest of these were of frame and those built later of brick or stone construction, where those materials were available. By 1830 or 1840, most of the early post-colonial types were outgrown, and new structures were proposed. The vogue of the Greek Revival was by that time fully established throughout the new state as the style most suited to the public buildings, and consequently there were a great number of Greek Revival court houses erected during this period, many of which are still standing.

A fine and typical example is the Sandusky County Court House, at Fremont (formerly, Lower Sandusky), Ohio. By 1840 the old court house had



Sandusky County Court House, Fremont, O.

Built 1840-1844

been completely outgrown, and on March 4 of that year an order was given to the County Commissioners providing for the erection of a new structure. The site chosen was a city square near the center of the town, on the high west bank of the Sandusky River, and not far from the site of the historic Fort Sandusky. The ground was purchased on April 3, following, by the three commissioners who were then in charge, Paul Tew, Jonas Smith and John Bell.

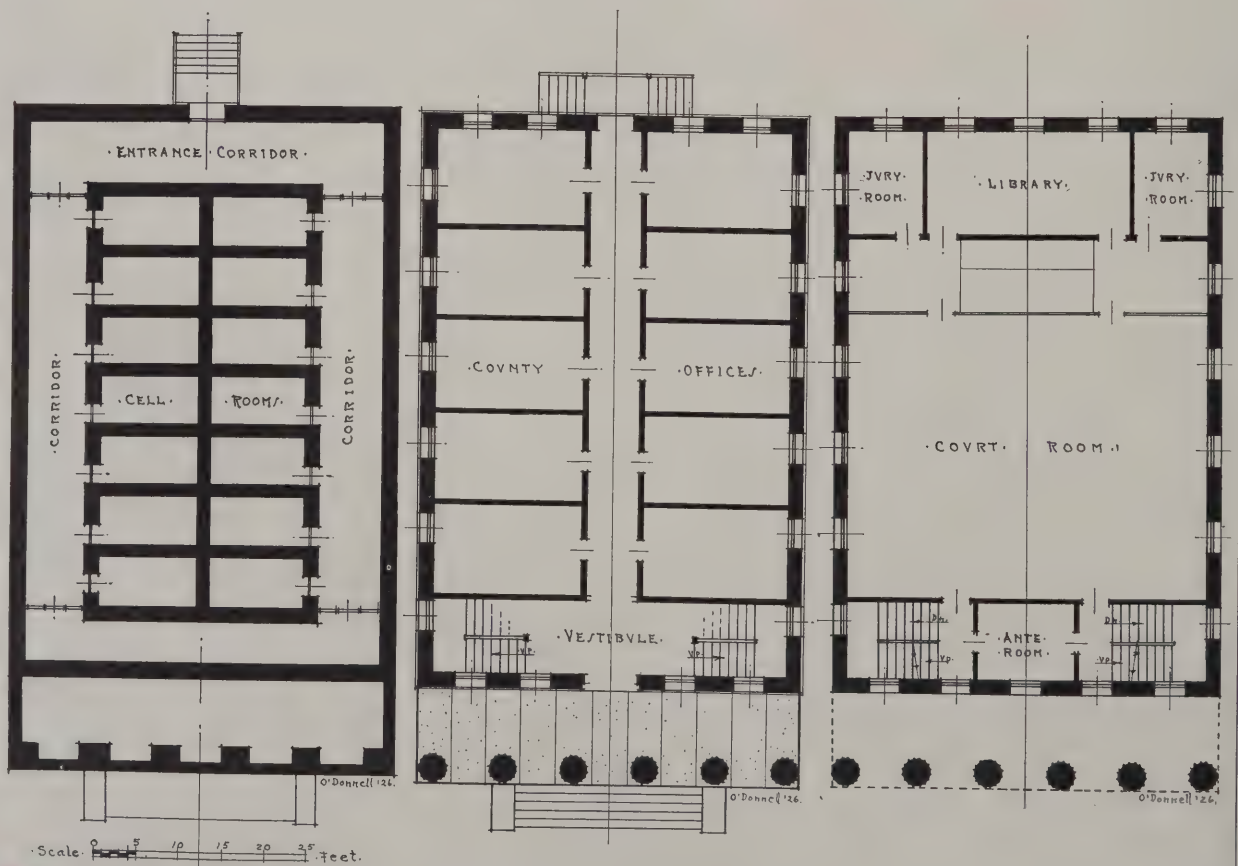
Cyrus Williams was appointed architect and superintendent of construction, and the contract for the entire work was let on June 2, 1840, to Isaac Knapp, his bid being \$14,550. The records show that at a later date he was allowed \$2,000 additional compensation,—perhaps for the proverbial “extras.” The most startling thing concerning the entire transaction is the “relative importance” accorded the architect, even in this American - Greek - Classic period, which is evidenced by the fact that Mr. Williams received the munificent “salary” of \$300, which is recorded in the Commissioners’ Journal as having been paid on December 8, 1842, two and one-

half years after the contract was let! The building was completed and accepted by the Commissioners in July, 1844, and was, therefore, four years under construction, thus allowing time for excellent building.

This structure may be taken as a typical example of a Greek Revival court house in Ohio, of the 'forties. It conforms to the accepted formula, which is an adaptation of the temple type of structure,—rectangular in plan, two stories and basement in height, a portico, either pedimented or plain, at the front with colossal Greek columns and a cupola placed over the front or center of the main mass of the building. The three floor plans of the Fremont court house are shown in the accompanying drawings. The basement was somewhat unusual in this case, for it served as the county jail; the first floor, was used for the various county offices, and the second floor, the most important of all, contained the court room, the law library and various anterooms.

The jail must have been a veritable dungeon, cold, damp, unventilated and unsanitary, and when viewed in the light of modern prison and jail architecture,

PLANS BEFORE ALTERATIONS, SANDUSKY COUNTY COURTHOUSE, FREMONT, O.



Basement Floor, Showing Cells as Originally Designed for Jail Use

First Floor, as Originally Designed. Built 1840-1844

Second Floor, Showing the Court Room and Ante-Rooms





MEASURED SKETCH OF CUPOLA, SANDUSKY COUNTY COURT HOUSE, FREMONT, O.

it does not reflect great credit upon the humanitarian ideas of the period. The cells were arranged down the center of the basement area and separated from the outside walls by wide corridors which gave access to them. The floor was composed of very large and thick slabs of sandstone. On this the walls of the cells were constructed of cut limestone in large units. The cells were then covered with heavy sandstone flagging which also formed the floor of the story above. The cells were closed by doors of strong iron bars. Each was just large enough to accommodate a cot for one occupant. The only access to this underground dungeon was by a single door at the rear. It was what a jail was expected to be.

The first floor consisted of the portico, paved with sandstone flagging, an entrance vestibule and stair hall, and a long central corridor extending from front to rear with rooms for county officers on either side. The floor was of sandstone flagging, laid directly on the cell walls below. The stairways gave access to the second floor. The exact arrangement of the rooms on this floor is not known, since through subsequent remodelings the original scheme has been lost. But it is known that there was a large court room, a library and necessary ante-rooms, and these have been restored in the accompanying plans to something of their original arrangement. The floor construction of this story was of sandstone flagging laid in mortar on heavy timbers placed close together, solid, and built to last indefinitely.

The original building,—the front portion of the present structure, and that which is here shown in the measured plans,—was 45 feet in width and 78 feet in depth, including the portico. The basement foundation walls up to the first floor line were of dressed limestone, the main walls above of brick, and the cornice and roof of wood construction. The colonnaded portico on the east is 11 feet in depth, and in this case is not crowned by a pediment but by a horizontal cornice, a continuation of the main cornice of the building. The roof is of the low hipped type and was originally covered with pine shingles, which at a later time were replaced with tin. The six Greek Doric columns of the portico are of wood, built up, 38 inches in diameter at the base, about 29 feet high, and fluted. The proportions are those of the columns of the Parthenon, which building the Revivalist had been assured by Stuart & Revett, was the perfect example of Doric architecture. Their advice was generally followed.

It had become a tradition during the post-colonial period that a court house should have a cupola with a bell or clock, just as it was thought necessary that every church must have a spire and every state house a dome. This placed an obstacle in the path of the Greek Revival designer, one which he was never able to overcome satisfactorily, for the spirit of his time was in favor of "pure Greek" forms, though in Greek architecture there were no cupolas, spires or domes. But precedent for the cupola was not wholly wanting for the Revivalist, especially in

America, for in the first Greek Revival example, the Bank of Pennsylvania, (1799), Latrobe had introduced a small cupola over the center of the building, and in 1832 Strickland, his pupil, had completed the Merchants' Exchange, Philadelphia, in which he used an almost exact replica of the Choragic Monument of Lysicrates as a cupola or crowning feature.

No fixed formula either as to the form or the position of the cupola on the building was followed in the Ohio court houses in this style. In the Fremont example the cupola was of frame construction, and consisted of a low, square base surmounted by a smaller octagonal structure crowned by a small, conical roof. It was placed a little in front of the center of the main mass of the building, directly over the court room, and was supported entirely by the heavy, wooden roof trusses. Although the cupola may be looked upon as a suggestion of those of colonial times, at the hands of the Greek Revivalist it took on qualities never found in colonial work, its character being so changed as to harmonize with the severe classic lines of the Greek type of structure. The details of the Fremont court house cupola are shown in the accompanying measured sketch. As usual, in this building the Greek Doric was used on the main structure below and the Ionic, being lighter and more graceful, was used to embellish the cupola.

In 1870 it was found that the court room was entirely too small, and on September 10 of that year the commissioners entered into a contract to extend the building 40 feet at the rear. At the same time extensive alterations and additions were made on the interior, especially in the court room, which was entirely rebuilt. This remodeling, unfortunately, changed the character of the interior, leaving very little, if any, of the original interior architectural decorative features. It is probable, however, that a building of such a definite Greek Revival character on the exterior had upon its interior appropriate Greek Revival decorative details, especially in the court room. It is known that in the Greek Revival churches of this period it was the rule to treat the pulpit and the wall back of the pulpit with Greek Classic motifs. The pilastered wall treatment was especially popular, so it is not unlikely that the walls of the court room in this building were given the characteristic treatment.

The severely plain and dignified effect of the Greek elements would have been most appropriate for a court room, and such motifs were indeed often used.

Although the Fremont court house exhibits defects in plan and general design, and in some ways is inappropriate and exotic, it must be remembered that it was built in pioneering times, in a state where 40 years earlier there were no structures except primitive Indian wigwams. This building is representative of that class of early Ohio architecture which sowed the germ of classicism in the middle west, giving a favorable prestige to the pioneer states and counties, and making a firm basis upon which to build confidently our future architecture.

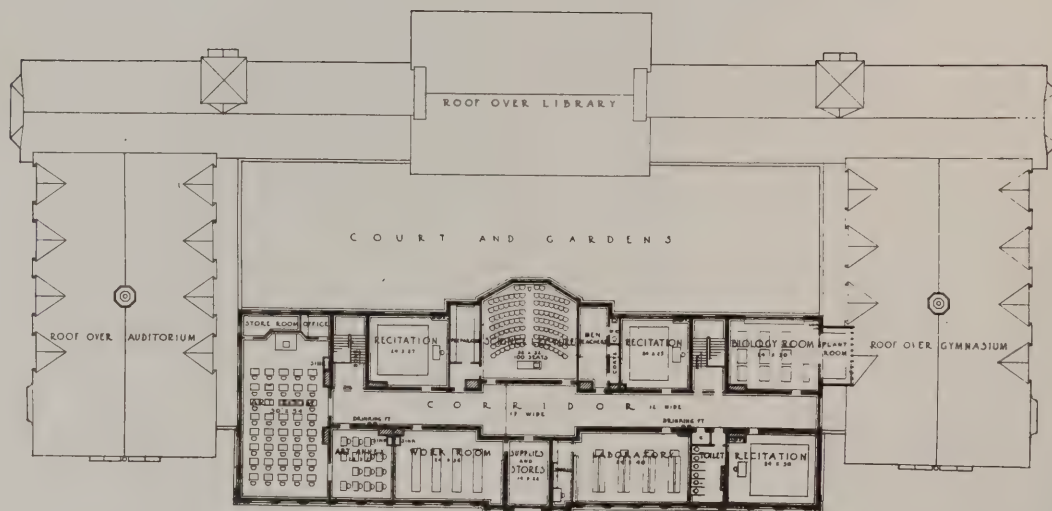




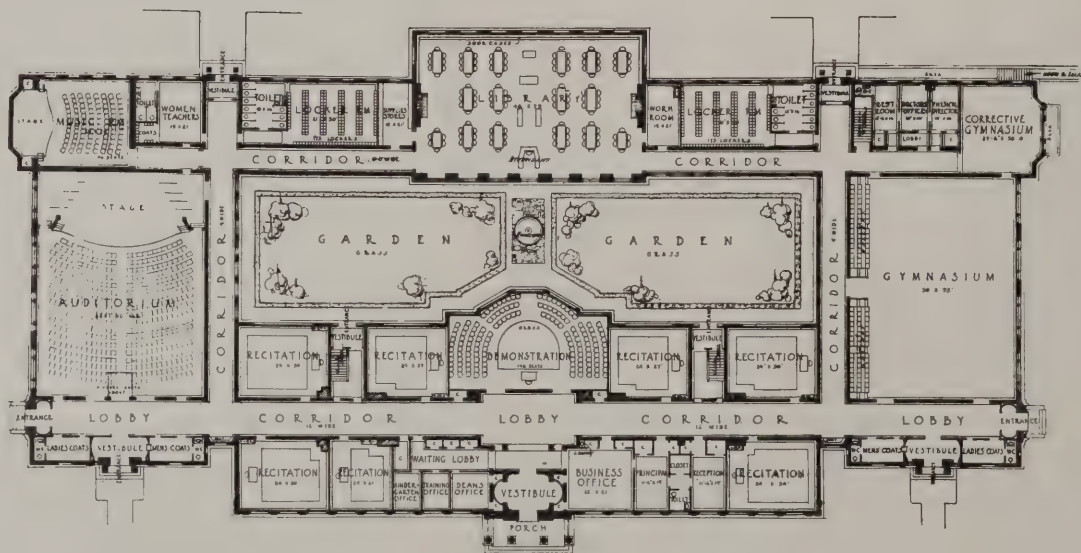
*Photos, Dix Duryea*

MAIN BUILDING, STATE NORMAL SCHOOL, NEW BRITAIN, CONN.  
GUILBERT & BETELLE, ARCHITECTS

*Plans on Back*



SECOND FLOOR



FIRST FLOOR

PLANS, MAIN BUILDING, STATE NORMAL SCHOOL, NEW BRITAIN, CONN.

GUILBERT & BETELLE, ARCHITECTS





MAIN ENTRANCE, STATE NORMAL SCHOOL, NEW BRITAIN, CONN.  
GUILBERT & BETELLE, ARCHITECTS





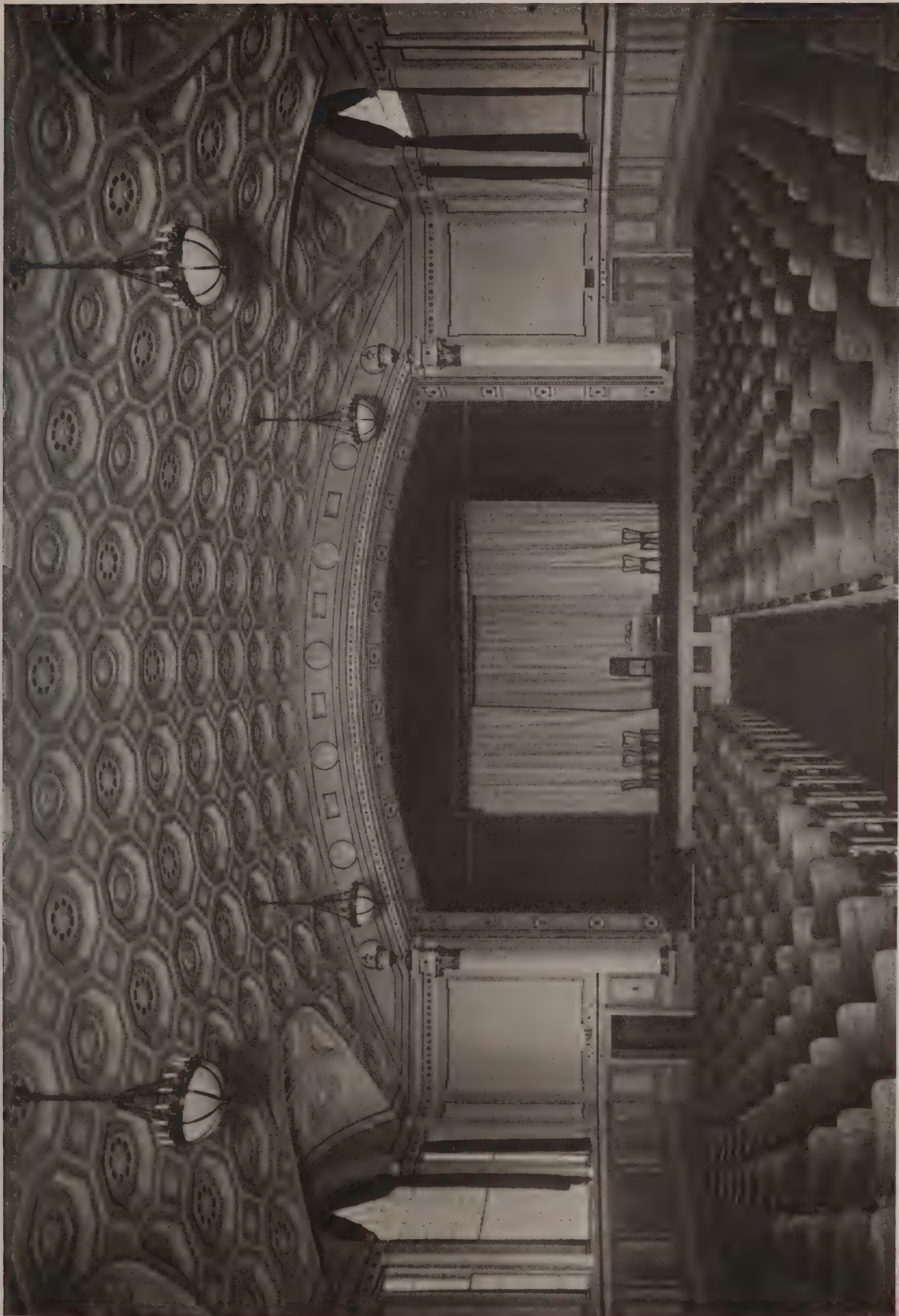


MAIN DOORWAY, STATE NORMAL SCHOOL, NEW BRITAIN, CTNN.  
GUILBERT & BETELLE, ARCHITECTS

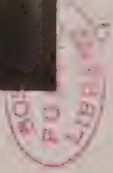
*Measured Drawing on Back*







AUDITORIUM, STATE NORMAL SCHOOL, NEW BRITAIN, CONN.  
GUILBERT & BETELLE, ARCHITECTS









*Drawing of Doorway on Back of Plate 62*

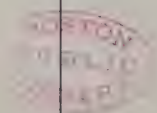
*Plans on Back*

CONVENT OF ST. ROSE OF LIMA, NEW YORK  
ROBERT J. REILEY, ARCHITECT

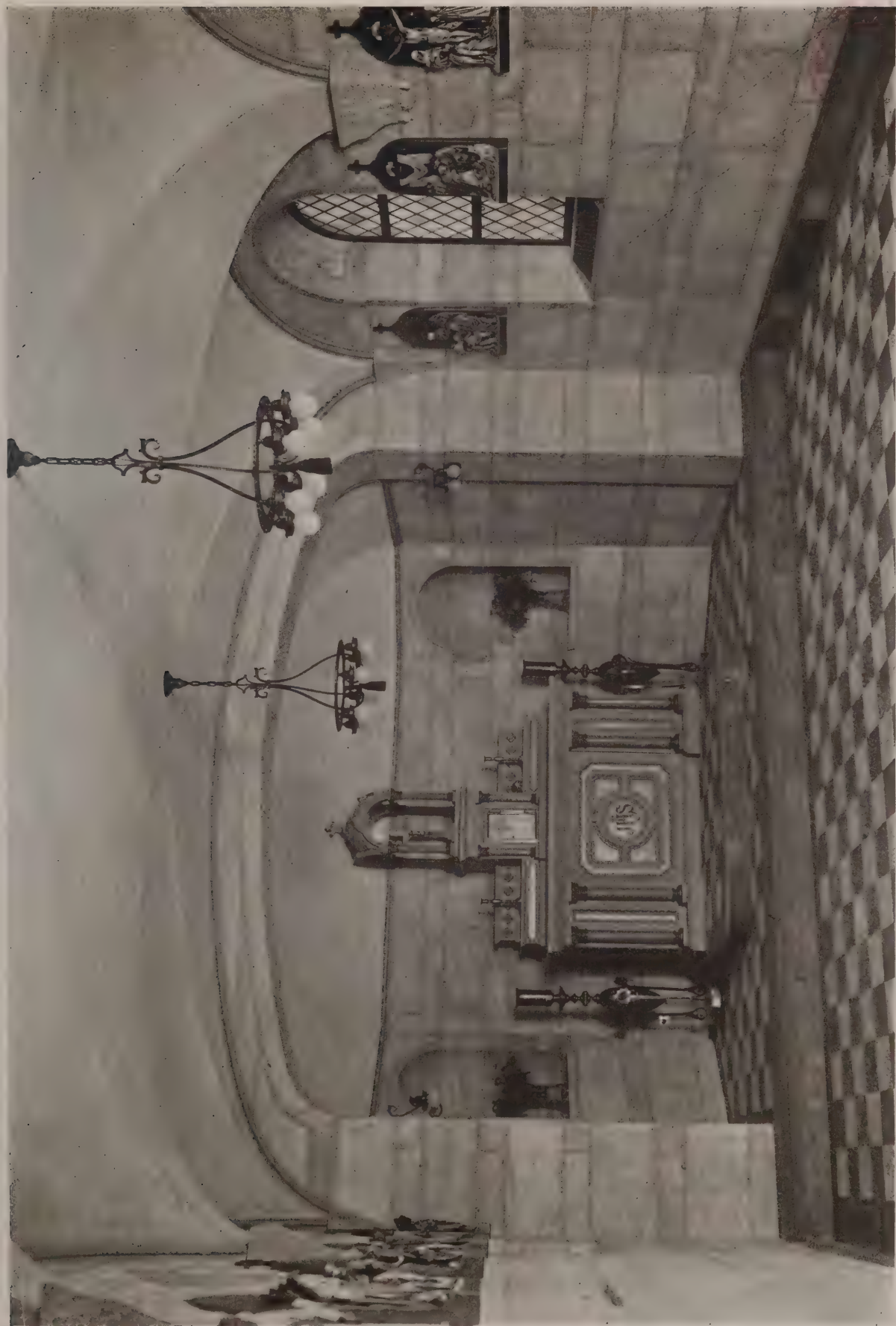


PLANS, CONVENT OF ST. ROSE OF LIMA, NEW YORK

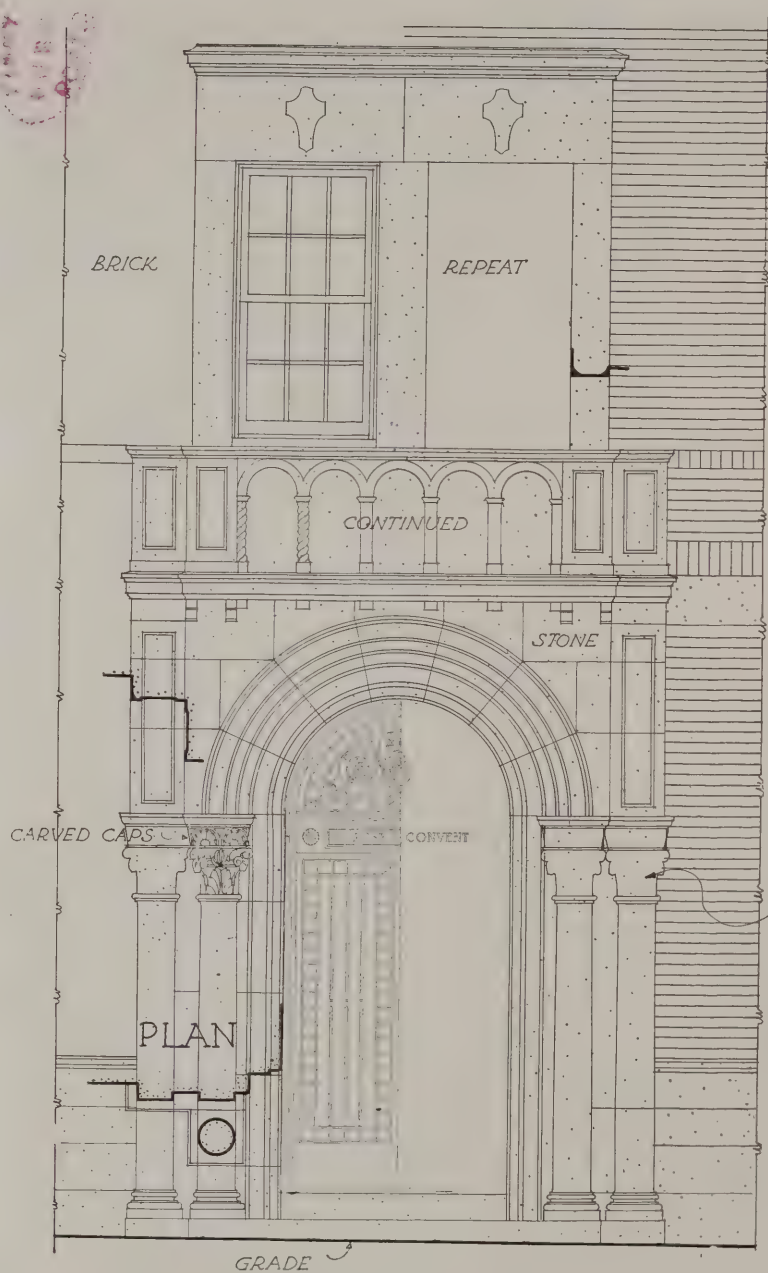
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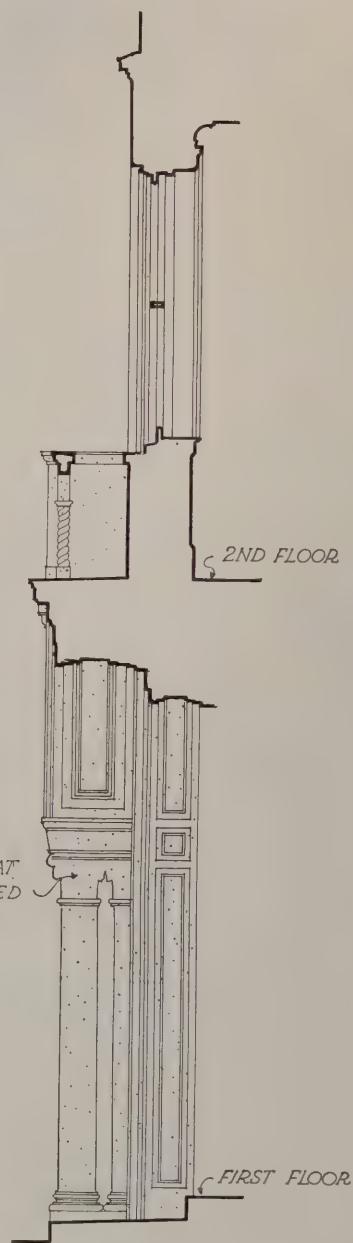




CHAPEL, CONVENT OF ST. ROSE OF LIMA, NEW YORK  
ROBERT J. REILEY, ARCHITECT



ELEVATION



SECTION

SCALE 0 5 10 IN FEET

MAIN ENTRANCE DETAIL  
ST. ROSE OF LIMA CONVENT

ROBERT J REILEY ARCHITECT NEW YORK CITY

OCT  
1926

No.  
10

The ARCHITECTURAL FORUM DETAILS





DINING ROOM, CONVENT OF ST. ROSE OF LIMA, NEW YORK  
ROBERT J. REILEY, ARCHITECT







DINING ROOM BAY



A LOGGIA

DETAILS, CONVENT OF ST. ROSE OF LIMA, NEW YORK  
ROBERT J. REILEY, ARCHITECT





# Old English Inns; Part I.

By CLINTON H. BLAKE, JR.

HE who would learn something of the life of the older England can do so in no better or more fascinating way than by a visit to some of the inns of Elizabethan and even earlier days. Both in their architecture and in their general atmosphere they are full of the life that was lived within them hundreds of years ago. There are many such within short distances of Westminster or St. Paul's. There are others scattered throughout England from the Scottish border southward, and from the Channel westward to the coasts of Devon and Cornwall. He who will can search them out with no great difficulty, and will find them fully as worth while as monuments, palaces, and cathedrals. Monuments they are indeed in the truest sense, and monuments which are very much alive. Interesting as part and parcel of the England of today, they are yet rich in historical associations, and carry on with little change the life of the England of King John, of Drake and of the Tudors, the colorful life of the times.

The unspoiled inn is sufficiently rare; the unspoiled inn in an unspoiled old English town is a prize indeed. Two such prizes may be found in the little town of Tewkesbury, not far from Gloucester. Dating from the eighth century, which saw the founding of its monastery, it is quite unspoiled. Its half-timbered houses are among the finest to be found in England. Its abbey, a successor of the eighth century monastery, is a pure delight. Its every street is crowded with rich historical associations.

At one end of the main village street, across the street from the present abbey grounds, is the "Bell" inn. At the other end, by the famous bridge across the Avon, built by King John, is the "Black Bear." They are two delightfully satisfying examples of the old English inn. The "Bell" guards the entrance to the town from the south, the "Black

Bear" the entrance from the north. Each radiates simple but ample hospitality and comfort. Each has its own peculiar appeal and charm. In either inn the traveler may sit him down with utter content and the knowledge that he may rest in peace, troubled by no curious tourist crowds, waited upon by one who is a true landlord, and surrounded by an atmosphere of quiet rural contentment which it would be difficult to surpass anywhere in England.

It is said that the "Bell" dates from about 1200. It may be that it was built a few years later. The date on its front, "1697," marks the year when it underwent a restoration, and it was quite evidently of somewhat venerable age at that time. In any event it appears that it was originally a part of the abbey property. It has been added to in modern times, but the additions and improvements have been carried out in good taste and do no harm. The older portion of the buildings is that facing the village street, that part in which the main entrance is still located. This part of the inn was originally

occupied by the monks, before the confiscation of monastic property by Henry VIII. The road to Gloucester, which now divides the inn from the abbey grounds, ran in old times along the river bank to the west, where now a charming little park is situated. The walls of the main lounge room still bear carefully preserved frescoes placed there by the monks during their occupancy. Some of the old oak paneling and beamwork in this room is very fine. Much of it is carved. The oak paneling and trim, beamwork and frescoes were brought to light not long ago when some 30 odd layers of wallpaper which covered them were removed. At the same time the old fireplace was uncovered and again put to proper use.

Across the hall is the taproom, which is scrupulously clean and glistening with its shining rows



The Bell Hotel from the Bowling Green





THE BELL HOTEL, TEWKESBURY  
BUILT ABOUT 1200; RESTORED IN 1697





THE OLD BLACK BEAR TAVERN, TEWKESBURY  
ESPECIALLY RICH IN OLD ENGLISH OAK, WITHIN AND WITHOUT



of glasses. Here at noon and in the evening gather the country folk for their noonday and evening glasses of ale,—or now and then perhaps something a wee bit stronger. No dining room in one of our great hotels could be more quiet or respectable, however. He would be a fanatical reformer indeed who could find aught here to which he could properly take exception. Indeed, the same may be said for substantially all of the bar rooms in the inns of England. There is nothing about them, except the contents of the kegs and bottles, which is reminiscent in the slightest degree of the saloon as we have known it in America. There is no drunkenness, nothing sordid. All is in order and, as the head master of Rugby School is reported to have said recently, the conversation compares very favorably with that which passes current in our fashionable drawing rooms and restaurants anywhere in America.

The "Bell" is the original of the house of Abel Fletcher in Miss Muloch's story of "John Halifax, Gentleman." A few paces away is the old mill which figures in the same story. Here it has stood for hundreds of years, and here today its wheel is still turning as we pass or linger a few moments to watch it from the river bank not a great distance away.

Behind the inn is a typical English flower garden enclosed by high brick walls with vines clambering upon them and, down each side of the path, a profusion of English roses, trained straight and high in the English fashion. Passing down this path and through the garden gate at the farther end we enter the famous bowling green enclosure, showing use.

The bowling green is still kept in prime condition. Here the monks were wont to bowl seven hundred years ago, and here today each evening under the electric lights of the twentieth century gather the townsfolk to contend at the same games. About the edges of the green are little arbors under the yew trees where one may laze all day or watch the games by night. A few feet away, across the park, beyond the hedge, is the Avon as it flows on from the old mill to join the Severn a bit farther down the valley. The description of this delightful spot in "John Halifax" is substantially accurate in every particular.

The "Black Bear" tavern at the other end of the village is far more limited in its bedroom accommodations. It lacks, too, the garden and grounds which are such attractions at the "Bell." It has its own peculiar charm, however, and he would be a prosaic mortal indeed who would not feel contented and happy within its walls. It is especially rich in old English oak, both within and without. Its exterior is charming, and the hand-hewn beams without and within the inn are as sturdy as when they were put in place. The bar ceiling has some very interesting plaster relief work. The main guest room, with its generous fireplace and casement windows, is the ideal inn bedroom of olden days. Everything is spotlessly clean here, as at the "Bell."

The building is practically all old, and no additions of any consequence have been made. The kitchen is a tiny place, lined round with shining copper. The western end of the inn was originally a stable, where the people driving to town from the surrounding country were able to stable their horses. This stable wing has been now incorporated in the inn proper, without any change in the exterior lines or elevation. All the fine old oak timbering has been carefully preserved, and the traveler may now dine and sip his ale where years ago the horses were accorded an equally generous, if somewhat different, fare and hospitality. No visitor to Tewkesbury should pass the "Black Bear" by. He will remember its peculiar charm long after he has left, and wish himself again within its ancient walls. There are a number of other inns in Tewkesbury, among them the "Hoppole" of Dickens fame. The "Bell" and the "Black Bear" go serenely on their respective ways, however, unrivaled among the resting places of the town in their Old World character. They are little changed from the days when they looked out upon the Battle of Tewkesbury and saw the waters of the pleasant little river by which they stand stained with the blood of defeated Lancaster. Here, indeed, as so frequently elsewhere in England, existing buildings seem to carry one back to the days of two, three or four hundred years ago. Long may the old buildings endure, to lend color and romance to our prosaic age!



Part of the Bowling Green at the Bell Hotel



An Old Fireplace at the Bell Hotel



# SMALL BUILDINGS

## The Small Hospital

By EDWARD F. STEVENS

THE term "small hospital" may be more or less misleading, for under certain conditions a 100-bed hospital might be considered a small hospital, while in other locations a 50-bed institution would perhaps function as a larger hospital.

We think of a small hospital as one of from 20 to 50 beds, and during the present century hundreds of these small hospitals have been built throughout the length and breadth of our land. Perhaps the term "small" or "cottage" hospital may have started with the small English cottage hospitals, some of which were little more than dressing stations, although in these dressing stations much good work has been accomplished. We realize that the highest medical and surgical efficiency may be obtained only in hospitals of sufficient size to afford complete diagnostic, therapeutic and operating facilities, but notwithstanding this fact we shall probably always continue to have the small hospital with us; and while we realize that the scope of work in these hospitals is limited, they do afford a haven of rest where in isolated communities better care can be taken of the patients than generally in their homes.

To build a hospital of from 20 to 50 beds, let us say, in a community in close proximity to larger hospital units has become a very questionable procedure, for the reason that proper diagnostic facilities cannot well be obtained, and it is the feeling of the writer that the small hospital of the future will be built and maintained only in the outlying and sparsely settled districts, where the larger hospital is not available except by delay in traveling and at great expense. Establishing a hospital should be carefully done.

In an effort to establish such small hospitals, we often meet some such conditions as these. A wealthy citizen, feeling his obligation to a community and believing that a hospital would be the kindest expression of gratitude, leaves in his will his beautiful estate to a board of trustees with directions to develop and maintain the estate as a public hospital. These trustees are anxious to carry out the wishes of their late friend and neighbor, and proceed under the wise direction of their architect and medical staff to make this beautiful estate into a home for the care of the sick. Sometimes this procedure results in a fairly well functioning hospital, but generally the house, which has been planned for the pleasure of the owner and a family of three or four persons, with special reception rooms, dining rooms, etc., narrow stairs, narrow doors and elaborate

woodwork, does not yield to an economical adaptation for hospital purposes. Many times it is not only simpler but more economical to start at the foundation and erect a hospital building, possibly using the old mansion as a nurses' residence. A wise committee will endeavor to so use such an estate. Each instance demands individual treatment.

While we cannot apply the same rules and standards for the building of a small hospital that we would for a larger hospital of 100 to 500 beds, the same principles for the care of the patient must be considered, no matter how small the hospital; for after all, whether the hospital contains five or 500 beds, it should be built with the sick patient always in mind, and the comfort of that patient at all times should govern the plan. In the planning of the patient's room, the air, the light, freedom from noise, both from the exterior and the interior, the facilities for the proper service of palatable food, the isolation of noisy portions of the building, are all quite as important as the medical and surgical care which the patient will receive in the hospital.

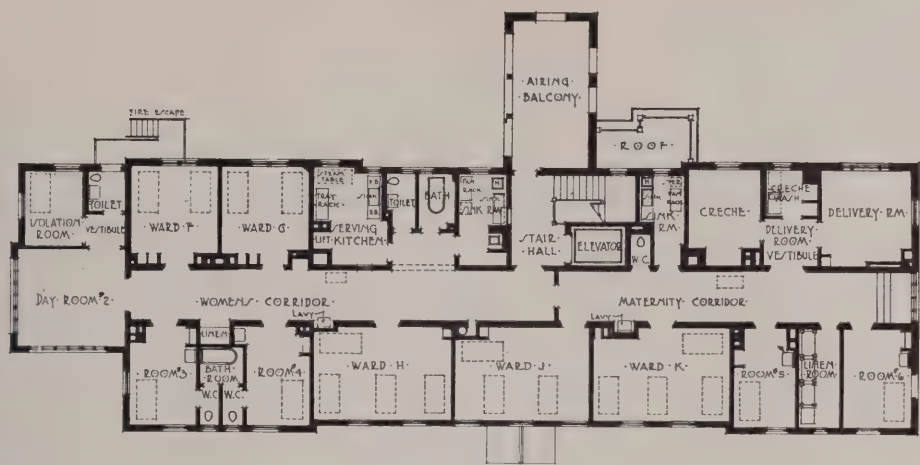
In the planning of a hospital around a single individual (for after all the patients are merely a collection of individuals) just as much care should be used in the selection of the site as we would take in selecting sites for our own homes, which would be our homes for life. We should consider the rooms for the patients as we would those in our own homes for our own family and honored guests. A site, therefore, should be selected with pleasant surroundings and an outlook that will be at once inspiring and restful, where the morning sun will flood our principal rooms and the refreshing breezes give comfort for the afternoon. Whether the hospital be large or small, in selecting the site the question of drainage should be considered as well as the securing of a sheltered position of the buildings for protection from the winter winds and the summer heat.

In the planning of our small hospital we should again consider the patients as our guests. Were we planning for guests in our own homes, we surely would not crowd them into one room, but would furnish separate rooms, or at least put no more than two in one room. The modern hospital, whether large or small, should be planned for the privacy and comfort of the patient. If it seems wise, for economy's sake in the construction, to have a few beds in one room, then it is the writer's opinion that these rooms should be subdivided by permanent



MARY LANE HOSPITAL, WARE, MASS.  
EDWARD F. STEVENS, ARCHITECT





SECOND FLOOR



FIRST FLOOR



BASEMENT FLOOR

PLANS, MARY LANE HOSPITAL, WARE, MASS.  
EDWARD F. STEVENS, ARCHITECT

screens, so as to afford the privacy of an individual room with the ease of caring for the customary ward.

With the patient comfortably housed in a pleasant room, the planning of the rest of the institution should be done around this point. The preparation of food, the care of the building, the location of the surgical section, the heating in winter, and the cooling of the building in summer should now be considered; and in planning these departments we should indirectly consider the comfort of the patients by directly considering the comfort of those who wait upon the patients. For instance, take the location of the kitchen. We often see in small institutions (and large ones too for that matter) the kitchens placed well below ground, with little or no outside light and less ventilation, and still expect the attendants to be happy and contented. If food can be served in a dainty, tempting manner the chances are better for an early convalescence. The kitchen should be located at not too great a distance for the proper service of food, and not near enough to disturb the patient by the noise and rattle of pots and pans. With the modern food conveyors of the fireless cooker type there should be little difficulty in transporting palatable food to a considerable distance. So also with the operating department, that most dreaded section of the hospital. It should be placed where the approach to it can be screened from the patient's view as much as possible. In the small hospital, the surgical and medical portion, kitchen and laboratory can often be placed on the first floor, thus leaving the stories above free for the housing of the patients. In this way the workshop of our little hospital is entirely hidden away from the sight and hearing of our sick patients, as indeed it should be.

With the proper distribution of these various departments on the first floor, we should not forget to make the entrance to our small hospital just as attractive as possible. It is here that the patient gets his first impression of an institution of this kind, which often has much to do with the effect of the treatment received in the hospital; for if the patient approaches through a stuffy little entrance, without distinction, without character, without the warmth of a home atmosphere, that first impression never leaves him. The writer believes that a generous, well planned, carefully decorated entrance, although it may occupy considerable area and is really in use only at times, is worth while and should not be considered extravagant. It would mean money well spent.

With a well-thought-out plan the design of the exterior should be a simple problem, and if the interior of the entrance should be homelike the exterior should be equally inspiring, with good lines, carefully laid out grounds, with shrubbery and flowers, and with parking spaces for motors (always at a little distance to preserve the necessary quiet).

The hospital, however large or small, should maintain its own laboratory, or at least be affiliated with the town laboratory, which is generally connected with the Board of Health. Provisions should also

be made for the use of the X-ray, since it is among the important factors in the hospital of today. The small community hospitals in the villages and towns of our country, far removed from the larger institutions, at once become the medical centers for the localities. These medical centers should be provided with ample meeting facilities for the use of the medical fraternity. This may mean the use of a nurses' dining room or sitting room, but some room should be provided, for its use will often be necessary.

Speaking of nurses, if it can possibly be avoided the nurses should not be housed in the same building with the sick patients, for when off duty they need relief from the strenuous and often heart-rending scenes with which they come in contact throughout their working hours. If they are housed in the same building, then they should be in a separate wing or on a separate floor,—where they would not disturb the sick; but a separate building is preferable.

The therapeutic as well as the æsthetic use of color in hospitals, large or small, plays an important part in the comfort and well being of the patient. The floors, the walls, the finish, as well as the color of the furnishings and hangings all count for good or bad, for who, weakened by sickness, enjoys staring at a glaring white wall or an unshaded light?

To illustrate some of the principles mentioned in the foregoing paragraphs, one plan of a small hospital is presented, herewith,—that of a community hospital at Ware, Mass. This hospital contains 30 beds. The working part, or as we might term it the "workshop" of the hospital, is on the basement and first floors, with ample provision for kitchen and dining facilities, heating plant, X-ray and laboratory on the basement floor and for the office and operating and accident department on the first floor, with the "workshop" portion carefully shut off from the patients. The patients, both ward and private, have every facility for comfort, with airing balconies, day room and utilities. This small hospital has a complete maternity department, and a children's and isolation department. Designed in the Colonial style, it makes an attractive appearance from the exterior and is also a properly functioning small hospital.

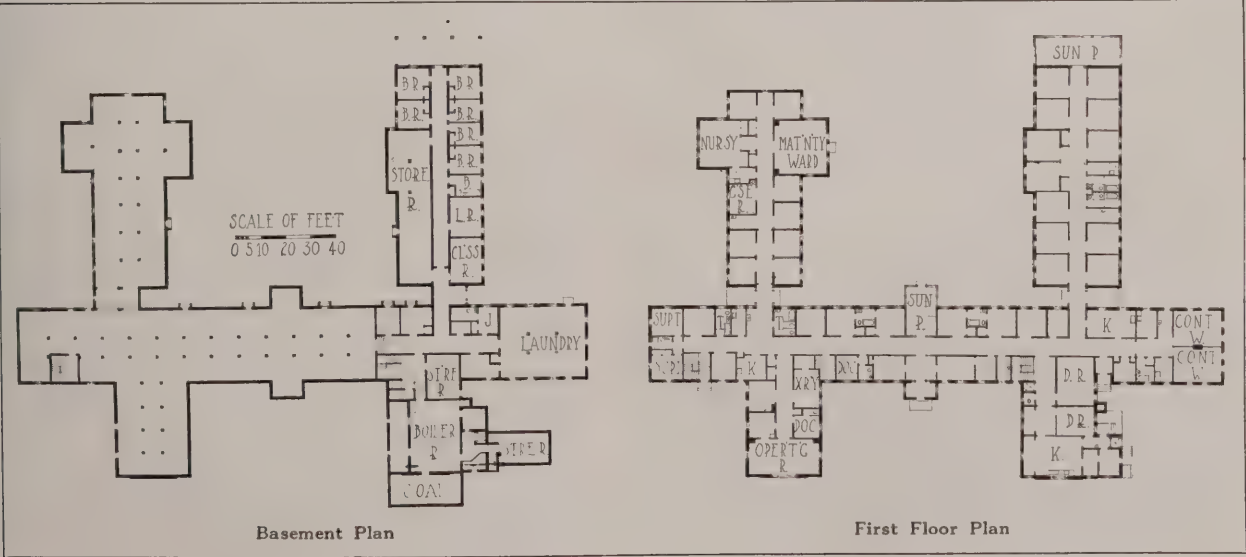
During the past few years a complete change has been made in the point of view from which a hospital, large or small, is regarded. The old fashioned hospital, bleak and chill, and with its generally "institutional" character was indeed likely to depress if not terrify patients as they entered; apparently it had never occurred to architects or hospital superintendents that patients even more than people who are well are affected by their surroundings. The modern hospital (and particularly the small hospital, which because of its size seems to be more intimate) is likely to be bright, cheerful, and planned with a view to giving patients something at least of the atmosphere of an individual home. Skillful use is made of color in walls, draperies, and floor coverings, and excellent taste is used in selecting furniture and other accessories, not necessarily of usual hospital character.





*Photos, Paul J. Weber*

STOWELL MEMORIAL HOSPITAL, CLAREMONT, N. H.  
OFFICE OF R. CLIPSTON STURGIS, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—143

Stowell Memorial Hospital, Claremont, N. H.  
Office of R. Clipston Sturgis, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Concrete foundations; brick walls, wood frame and slate roof.

## EXTERIOR MATERIALS:

Brick.

## ROOF:

Slate.

## WINDOWS:

Wood.

## FLOORS:

Linoleum on concrete.

## HEATING:

Steam with gravity.

## INTERIOR MILL WORK:

Gum wood.

## INTERIOR WALL FINISH:

Painted plaster.

## DECORATIVE TREATMENT:

Painted walls; stained gum wood finish.

## NUMBER OF BEDS:

52.

## APPROXIMATE CUBIC FOOTAGE:

400,000.

## COST PER CUBIC FOOT:

34 cents.

## DATE OF COMPLETION:

February, 1924.

THE square foot area has been no consideration in the plan of this attractive memorial hospital in New Hampshire. Only one story in height, the carefully balanced building covers an extensive area of ground. Simplicity marks the exterior elevations, where Harvard brick laid in Flemish bond, brick window sills and four-centered window arches produce a pleasingly restrained and dignified effect, suggestive of much of the early Colonial architecture.

The plan of this building includes every department needed in a suburban or country hospital. One wing or pavilion is used entirely for maternity cases,

while another wing on the opposite side of the rear court is devoted to general medical patients. Here are located 12 rooms or small wards, each planned to contain two beds. At the end of the corridor, running the length of a pavilion, is a spacious sun porch. In the main building are located the operating department, rooms for the superintendent and his assistants, an X-ray room, large and small diet kitchens, two isolated contagious wards, and a large kitchen with adjacent dining rooms for both nurses and servants. Nine single or private bedrooms are also included in the main or central building of the hospital.



Operating Room Wing

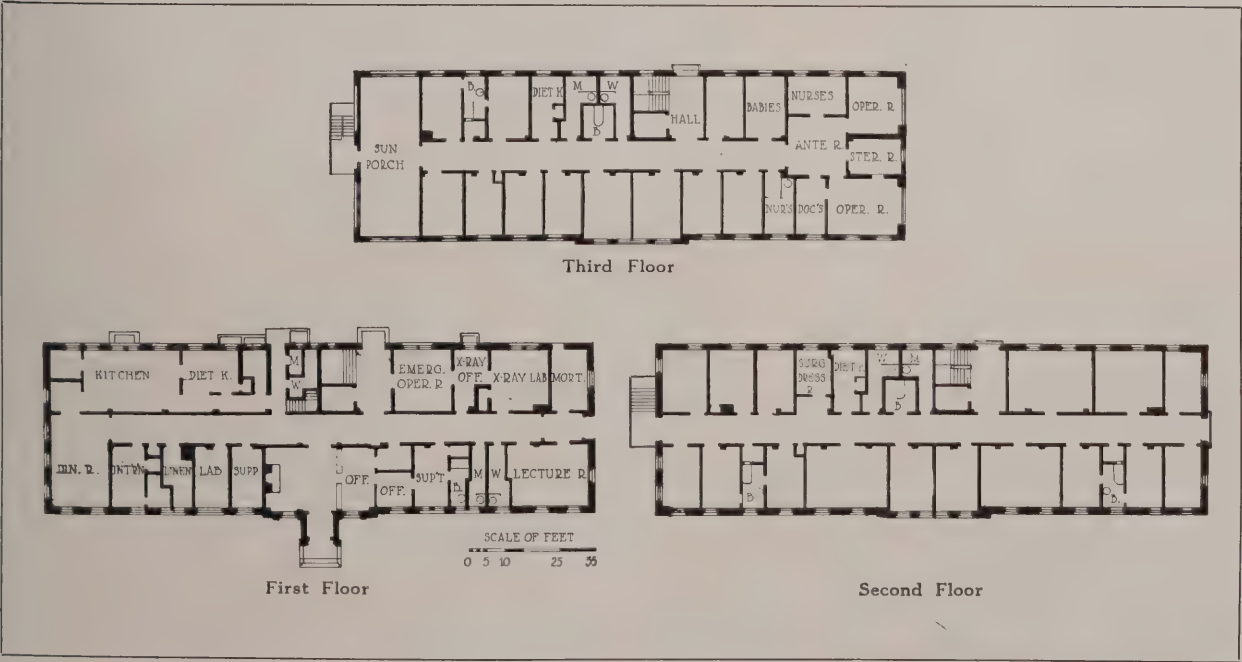


The Main Entrance





INGALLS MEMORIAL HOSPITAL, HARVEY, ILL.  
CHATTEN & HAMMOND, ARCHITECTS





THIS small memorial hospital contains approximately 31 beds. The building, which is fire-proof, cost 46 cents per cubic foot, not including the separate boiler house and laundry equipment. In design the exterior elevations show the use of Renaissance details. This is particularly true of the front and side entrances, which show carefully studied detail in this style. Quoin blocks emphasize and strengthen the corners of the building and the center entrance bay. The main entrance porch and windows at either side are pleasantly joined in one architectural motif. Whether or not this motif would have been more successful had it included the corners of this bay may be open to question.

The plan is typical of most small hospitals, occupying a single rectangular building. An entrance hall at the center connects directly with a long corridor extending the length of the structure. Off of this

corridor on the main floor are located the offices and apartment of the superintendent and the various utility rooms essential to the hospital management and equipment, such as a small lecture hall, X-ray office and laboratory, emergency operating or clinic room, and main and diet kitchens. The second and third floors are similar in plan to the first, each containing a center corridor extending the length of the building. These two floors are occupied almost entirely by bedrooms, the majority of which are planned to contain single beds. At one end of the third or top floor are located two operating rooms and various smaller rooms necessary to this department of the hospital. Much of the interest and home-like appearance of this hospital are due to its surroundings in a suburb of Chicago, where ample area, enclosed by a privet hedge and devoted to lawns, trees and shrubbery, affords light, air and sunshine.



Main Entrance, Ingalls Memorial Hospital





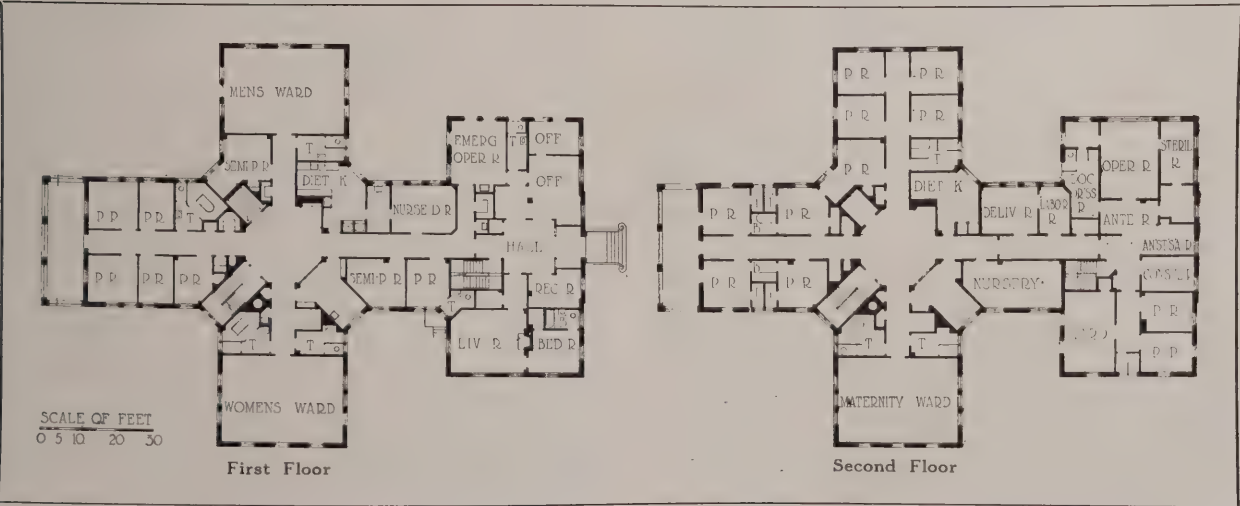
Entrance Facade



Photos. G. H. Van Anda

View from Rear

NORTHERN WESTCHESTER HOSPITAL, MT. KISCO, N. Y.  
BENJAMIN WISTAR MORRIS, ARCHITECT



## FORUM SPECIFICATION AND DATA SHEET—144

Northern Westchester Hospital, Mt. Kisco, N. Y.  
Benjamin Wistar Morris, Architect

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Steel and concrete.

## EXTERIOR MATERIALS:

Brick.

## ROOF:

Wood joists, slate finish.

## WINDOWS:

Wood sash.

## FLOORS:

Cement, covered with linoleum and rubber.

## HEATING:

Hot water.

## INTERIOR WALL FINISH:

Plaster, painted.

## NUMBER OF BEDS:

48

## APPROXIMATE CUBIC FOOTAGE:

328,000.

## COST PER CUBIC FOOT:

Approximately 75 cents.

## DATE OF COMPLETION:

May, 1925.

DESIGNED in a simple adaptation of the Colonial style, this two-story hospital building shows an unusually interesting plan, so arranged that additional wings may be constructed when needs require.

The principal entrance opens into a wing containing on the first floor the offices of the superintendent and head nurse, together with a reception room and small emergency operating room. Shut off by a door from the business portion of the first floor, a central corridor leads to the main part of the hospital proper, where on the first floor are located wards for both men and women, each planned to contain eight beds.

The nurses' dining room, pantry and diet kitchen, together with five private rooms and one semi-private room, as well as several toilets and bathrooms, occupy the greater portion of the first floor. Fireproof stairways lead from both the entrance hall of the business wing of the hospital and from the center of the main portion of the building to the second floor, where are located 11 private rooms, a maternity ward, diet kitchen, large operating room, maternity operating room, nursery and various storage and utility rooms. The exterior design shows a careful study of proportion as well as of fenestration.



Main Entrance



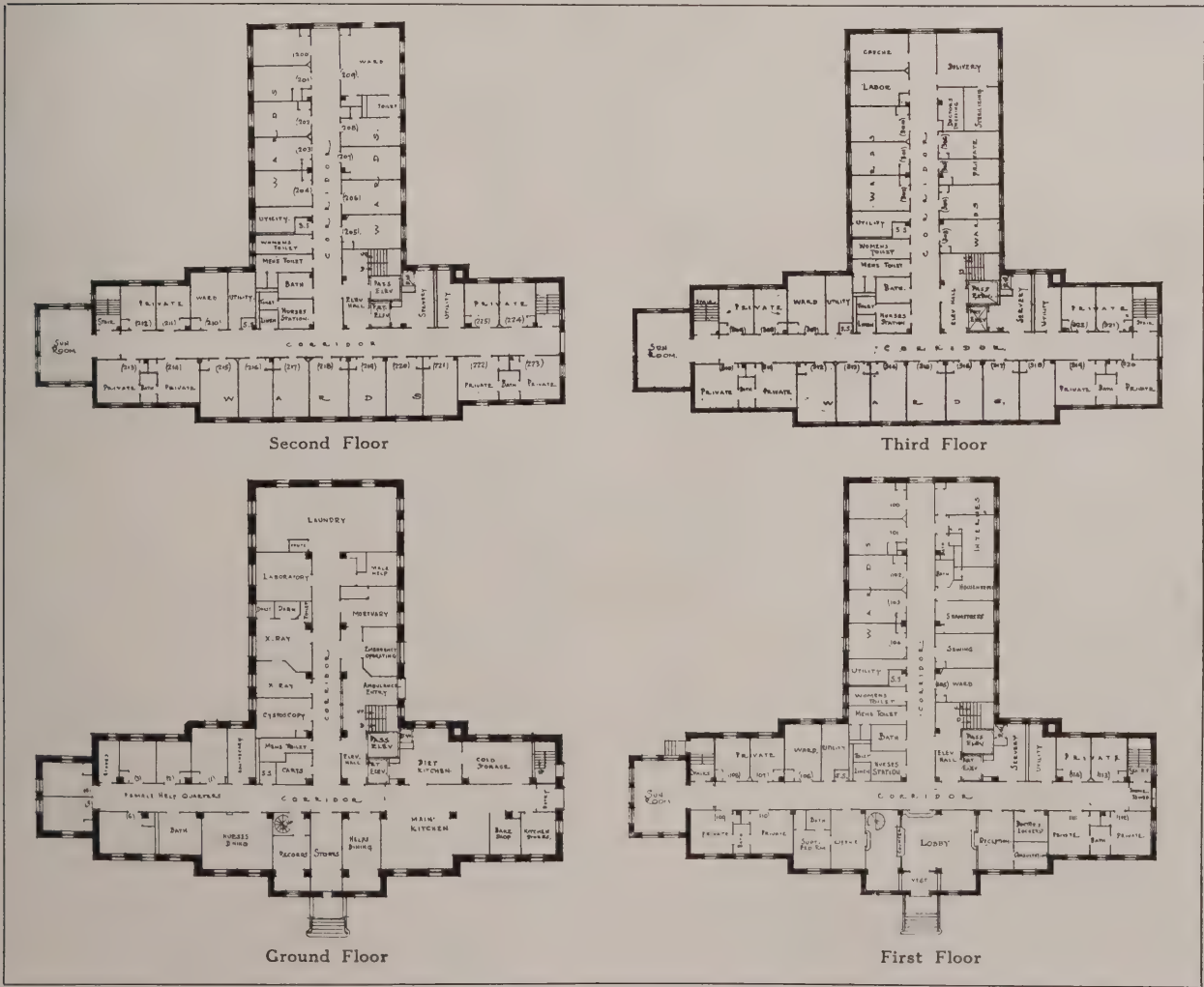
Porch Wing





Photos. P. R. Papin

CHRISTIAN HOSPITAL, ST. LOUIS  
HOENER, BAUM & FROESE, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—145

Christian Hospital, St. Louis,  
Hoener, Baum & Froese, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Reinforced concrete; brick bearing walls.

## EXTERIOR MATERIALS:

Buff brick and limestone trimming.

## WINDOWS:

Wood; steel in operating room.

## FLOORS:

Terrazzo, marble and tile.

## HEATING:

Vacuum steam.

## PLUMBING:

Fixtures, vitreous china. Circulating drinking water on all floors.

## ELECTRICAL EQUIPMENT:

Special night and bedside lighting for all patients' rooms; silent nurses' call system; doctors' autocall system. Elevators.

## INTERIOR MILL WORK:

Birch throughout; walnut in lobby.

## INTERIOR WALL FINISH:

Operating room and delivery and sterilizer rooms, tile; other walls painted lead and oil.

## DECORATIVE TREATMENT:

All rooms painted in different tones of cheerful colors. Lobby polychromed.

## NUMBER OF BEDS:

140.

## APPROXIMATE CUBIC FOOTAGE:

532,000.

## COST PER CUBIC FOOT:

63 cents complete, excepting furniture, linen and surgical equipment.

## DATE OF COMPLETION:

October, 1925.

ALTHOUGH containing 140 beds, some 40 of which are temporarily used by the nurses, this hospital building may logically be classed as a small hospital. A large basement makes possible the use of five floors for practical purposes. The exterior design shows a restrained use of Renaissance motifs. The entrance door is unusually well proportioned and interesting in detail, located in a rather unusual one-story bay which projects out from the main building to meet the entrance drive. The introduction of windows of such sizes as to sufficiently light the basement floor necessitated the placing of the

first floor several feet above the level of the entrance court. The rear of the basement is all above grade on account of the steeply sloping lot on which the hospital stands, making it possible to introduce at one side of the basement an ambulance entrance adjacent to both passenger and freight elevators.

The reception and consultation rooms are at the right of the entrance lobby, and the desk and offices of the superintendent and his staff are at the left. Designed apparently for private patients only, each of the three main floors is divided into a number of small bedrooms, and no general wards are included.



Main Entrance



In the Lobby





WAYNESBORO HOSPITAL, WAYNESBORO, PA.  
WYATT & NOLTING, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—146

Waynesboro Hospital, Waynesboro, Pa.,  
Wyatt & Nolting, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof.

## EXTERIOR MATERIALS:

Brick.

## ROOF:

Tin and slag.

## WINDOWS:

Double-hung, with hospital shutters.

## HEATING:

Vacuum steam.

## NUMBER OF BEDS:

About 40.

## ELECTRICAL EQUIPMENT:

Lighting.

## APPROXIMATE CUBIC FOOTAGE:

253,000.

## APPROXIMATE COST PER CUBIC FOOT:

45 cents.

## DATE OF COMPLETION:

October, 1922.

THE front elevation of this interesting small hospital building gives the effect of two stories and a basement, the third floor, which occupies the center part of the structure, being successfully disguised by a long open porch or loggia. There is a simplicity, directness or neatness about this design which is very pleasing. The use of blinds successfully takes away much of the institutional character of the appearance of the building. Due to the sharp drop in grade at the rear of the structure, it is possible to have here four complete stories above ground, adding much valuable and adequately lighted area to the interior.

The chief feature of this hospital is a large open-air ward designed for the treatment of tubercular cases, which occupies the greater part of the top floor of the main building. The basement floor, which is at the rear of the structure, and on a level with the grade, contains besides an ample ambulance entrance with connecting elevator, a large kitchen, pantry, food storage space, laboratory, dining rooms for both nurses and servants, an X-ray room, autopsy room, laundry and numerous storage and toilet rooms. On the first or main floor are two wards and eight private bedrooms, besides necessary offices.



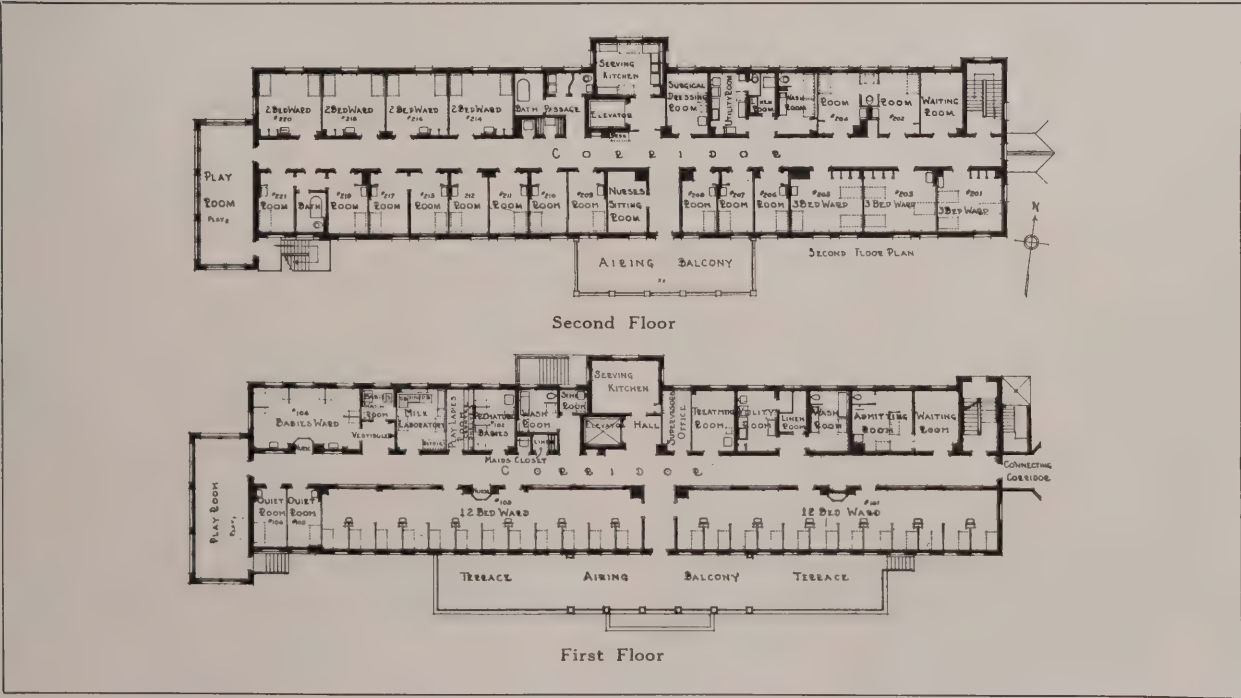
Rear View, Waynesboro Hospital





Photos. Paul J. Weber

CHILDREN'S PAVILION, ST. LUKE'S HOSPITAL, NEW BEDFORD, MASS.  
STEVENS & LEE, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—147

Children's Pavilion, St. Luke's Hospital, New Bedford, Mass.

Stevens &amp; Lee, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof.

## EXTERIOR MATERIALS:

Brick and stone.

## FLOORS:

Terrazzo, cement, linoleum and rubber.

## HEATING:

Steam, direct.

## PLUMBING:

Special hospital make.

## ELECTRICAL EQUIPMENT:

Lights, nurses' calls, etc.

## INTERIOR WALL FINISH:

Plaster.

## NUMBER OF BEDS:

57 for children, 14 for babies.

## APPROXIMATE CUBIC FOOTAGE:

300,000.

## COST PER CUBIC FOOT:

63 cents.

## TOTAL COST:

\$190,000.

## YEAR OF COMPLETION:

1926.

WHEREVER the question of limited area does not intrude itself, it seems very wise to design hospital buildings not more than two stories and a basement in height. This Children's Pavilion, which is a part of a larger hospital group, is an excellent example of carefully studied hospital planning. Each of the main stories of the building is unusually high.

As this Children's Pavilion is joined to the main hospital group by a connecting corridor, no main entrance is required, but at the point where the connecting corridor meets the building, an ambulance entrance is introduced on the ground level, and a

door for exit opens off the connecting corridor. The first floor contains two long 12-bed wards on one side of the center corridor, and a variety of utility, storage, reception, laboratory and diet rooms on the opposite side. A short entry leads from the main corridor of this floor onto the airing porch and terrace. A similar entry on the second floor opens onto the upper part of the airing porch. Thirteen single bedrooms, three 3-bed wards and four 4-bed wards, a general washroom and two bathrooms, together with a serving kitchen, surgical dressing room, utility and waiting rooms, complete the layout of this floor.



12-Bed Ward



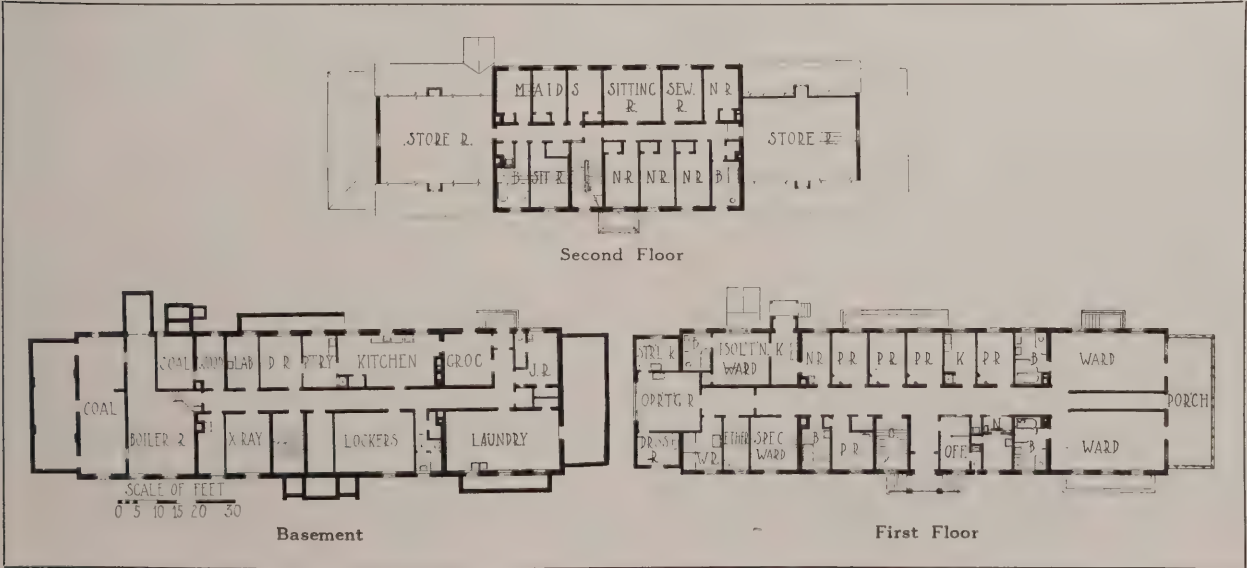
The Play Room





Photos. Paul J. Weber

PORTER MEMORIAL HOSPITAL, Middlebury, Vt.  
TROWBRIDGE & LIVINGSTON, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—148

Porter Memorial Hospital, Middlebury, Vt.,  
Trowbridge & Livingston, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof; combination terra cotta and reinforced concrete floor construction.

## EXTERIOR MATERIALS:

Brick with marble trim.

## ROOF:

Slate.

## WINDOWS:

Double-hung and casements.

## FLOORS:

Cement finished in linoleum.

## HEATING:

Steam, low pressure.

## PLUMBING:

Brass pipe for hot water; wrought iron for other uses.

## ELECTRICAL EQUIPMENT:

X-ray, sterilizers, etc.

## INTERIOR MILL WORK:

Cypress, varnished in service portion; enamel paint for wards, etc.

## INTERIOR WALL FINISH:

Plaster, enamel paint.

## NUMBER OF BEDS:

21 patients'; 10 nurses' and maids' rooms.

## APPROXIMATE CUBIC FOOTAGE:

182,500.

## COMPLETED COST PER CUBIC FOOT:

71 cents.

## DATE OF COMPLETION:

June, 1925.

FOLLOWING the almost universal custom in the eastern part of the United States, this small hospital in one of the northern New England states, containing accommodations for only 21 patients, shows Colonial precedent and inspiration in its design. It is, however, quite as complete in its layout and equipment as any of the larger and more pretentious hospitals considered in this group. There is a main building, two stories and a half in height, with a high, well lighted basement, at either end of which low wings balance the design. In order to give sufficient height to the basement, the first or

main floor was located several feet above the grade of the entrance drive, necessitating a few steps up to the main door. Access to the basement floor from the outside of the building is had through an area door five steps below grade at the rear of the building.

The basement layout includes the laundry, janitor's room, large kitchen with adjoining pantry, and rooms for groceries, boiler, coal, X-ray service, locker and storage space. The main stairway leading from the basement to the floors above is logically located near the center of the building. The second floor contains two wards and a complete isolation ward.



The Porch



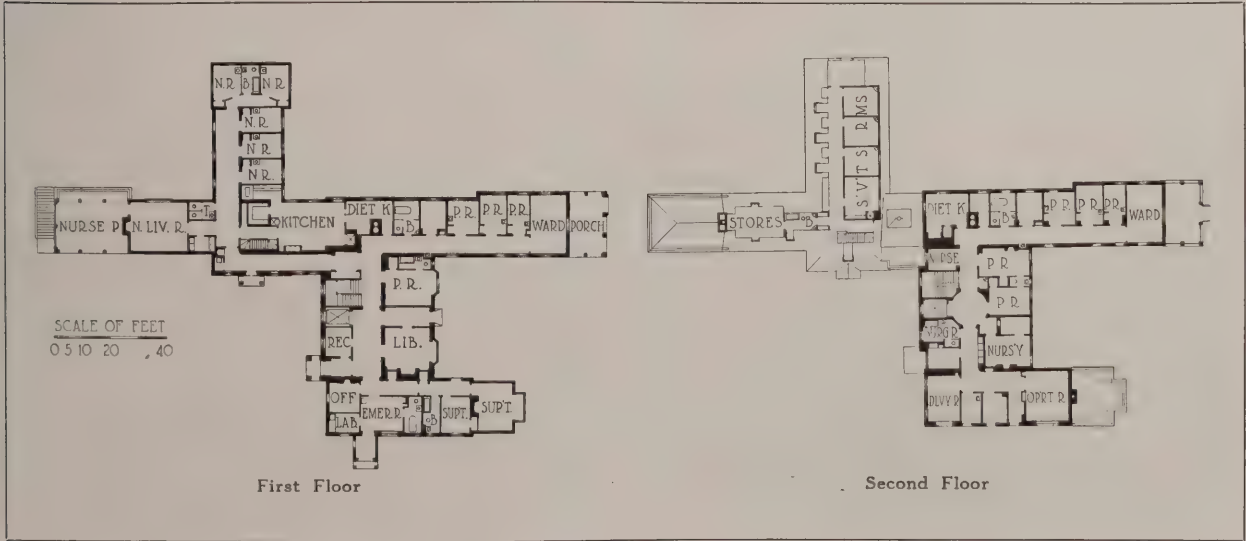
A Ward





Photos. Paul J. Weber

THE PETERBOROUGH HOSPITAL, PETERBOROUGH, N. H.  
LITTLE & RUSSELL, ARCHITECTS



## FORUM SPECIFICATION AND DATA SHEET—149

The Peterborough Hospital, Peterborough, N. H.,  
Little & Russell, Architects

## OUTLINE SPECIFICATIONS

## GENERAL CONSTRUCTION:

Fireproof to first floor level; non-fireproof above.

## EXTERIOR MATERIALS:

Red brick.

## ROOF:

Slate.

## WINDOWS:

Wood.

## FLOORS:

Wood and linoleum.

## HEATING:

High-pressure steam.

## PLUMBING:

Brass piping.

## ELECTRICAL EQUIPMENT:

Standard.

## INTERIOR MILL WORK:

Oak.

## NUMBER OF BEDS:

18.

## TIME OF COMPLETION:

Spring of 1921.

CHARACTERISTICALLY "New England" in the delightful manner in which Colonial precedent has been followed, this small 18-bed hospital is unique. Apparently economy in area and cost was no object in the plan of this picturesque and interesting hospital group. The introduction of the nurses' home as a part of the whole composition adds much to its architectural charm and balance.

The plan is such that another wing similar to that now used as a nurses' home may readily be added whenever need may require it. The quarters of the superintendent and the head nurse are spacious and

conveniently arranged. The minor front of the hospital shows an interesting use of bay windows on the first or ground floor, and of a two-story porch at the end of one wing. The superintendent's living room is unusually attractive, with its large fireplace and spacious bay window, and open on three sides. The plan of the second floor shows two operating rooms, one large and one small, connected with which are various surgical and utility rooms occupying one end,—and five single bedrooms, a diet kitchen, linen room, general bathroom, utility room and nurses' service room complete the arrangement of the floor.



In the Library



Main Entrance



# INTERIOR ARCHITECTURE

## The Taintor Homestead, East Avon, N. Y.

*Text and Drawings by* GEORGE FULTON, JR.

THE Taintor house was built in the year 1812 by Joseph Pearson, who emigrated from eastern to western New York with four of his brothers. The house is one of three buildings which these pioneers erected on the village square of East Avon, the other two being a brick tavern, diagonally opposite, and a brick church across the street. All three are still standing and are being used for their original purposes, but the house has suffered the least from alterations, only a few having been made.

The farm of Joseph Pearson extended north and south of the main highway for about a mile, he being the second white man to possess the property. About 1860 it came into the ownership of Dr. S. Taintor through marriage, and it is to him that we owe the excellent physical condition of the house and the row of graceful elms which line the highway for a mile or more. The farm, however, has dwindled from the large area of well cultivated land to an acre of pleasant, shaded lawn and gardens.

The house is of rough-hewn log frame with clap-boarded exterior, stone foundation walls, and brick chimneys,—the timbers from the farm of the pioneer, the stone from the fields and cellar excavation, and the brick from a kiln on the banks of the Genesee River. Except for new sills, put under the house in 1920, and the alteration of the east chimney into a vault, about 50 years ago, the structure of the main house is still in its original state. There are the usual one-story extensions at the rear, consisting of kitchen, tool room, wood shed, carriage room, etc., which add greatly to its charm. The front entrance has been marred by the addition of a hood with scroll sawed brackets of the '70s, but beneath

can be seen the refined moulded work of the early carpenter, probably something of an architect as well.

The interior has undergone no major alterations, except for the reconstruction of the east chimney into a vault on the first story. The vault is large enough for several people to stand upright and was used for the safe keeping of large sums of money before the advent of a bank in the district. In the northeast room and in the cellar below, there may still be seen the evidence of a once large kitchen hearth with its brick ovens. The fireplace, mantels and stairs, as can be seen from the illustrations and drawings, possess a great deal of merit, although not unusual for the period. The base blocks of the sitting room mantel have proportions suitable for a much larger pilaster, but there is no evidence that it was meant for other than what it is. The china cupboard and the floor pattern of the sitting room are quite distinctive. The cupboard does not seem to have been built into the house, but was evidently added later. The upper part, above the chair rail, however, seems to be of the same period, while the lower portion has the characteristics of later work. The sitting room is supposed to have been the public room, as the house was used for the entertainment of travelers, as were most of the houses of the place and period. The pattern is painted, in oil, on a floor of wide pine boards and is graded in tone, as shown. It is now quite indistinct, in spite of the attempts to preserve it in past years. It can be made out only with difficulty.

The excellent condition of the Taintor house speaks well for the workmanship of the early builders, but not nearly so eloquently as do the cellar stairs, which Mr. Pearson built at the time as "temporary!"



The Taintor Homestead, East Avon, N. Y.

Erected 1812



Dining Room Mantel, Taintor Homestead  
Measured Drawing on Page 253



Sitting Room Mantel, Taintor Homestead  
Measured Drawing on Page 252





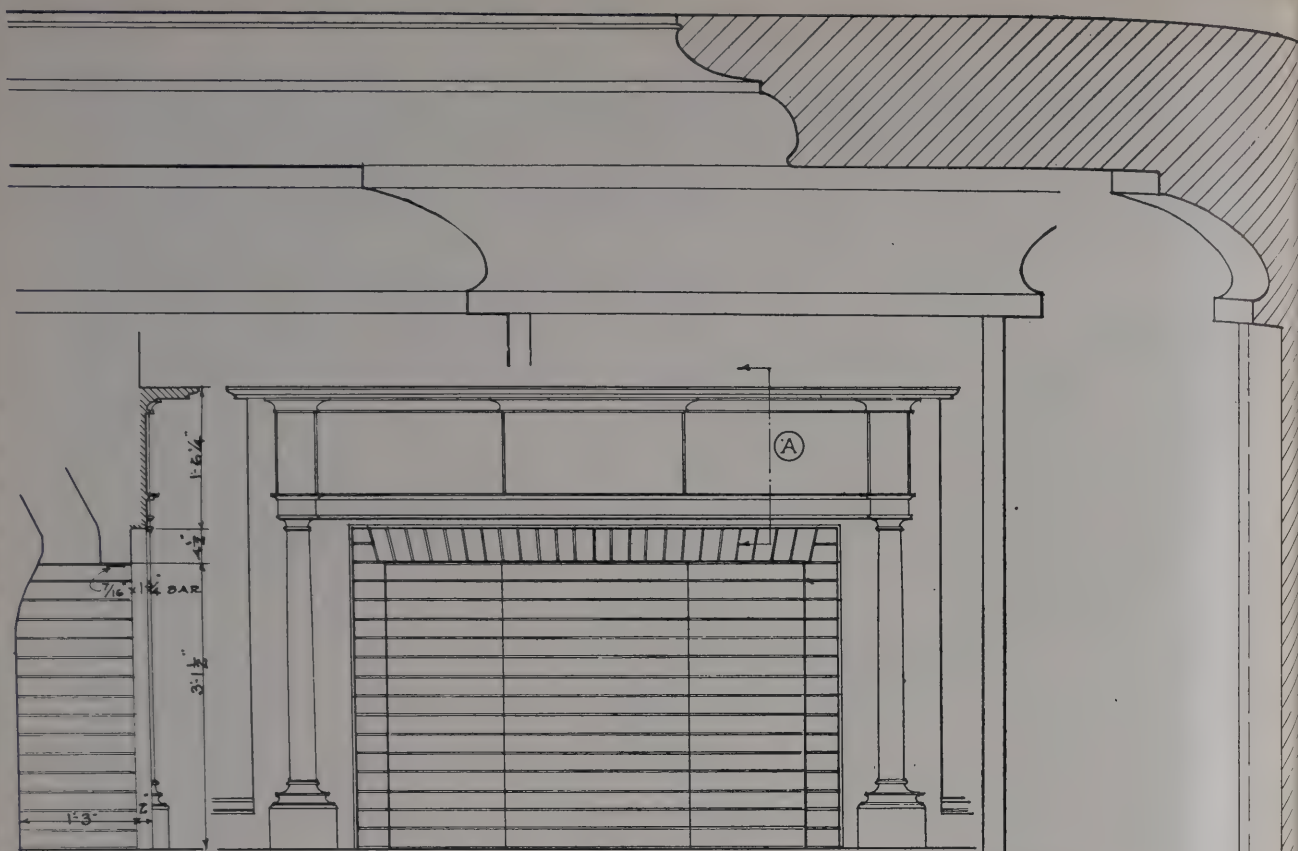
A Bedroom Fireplace, Taintor Homestead



Stair Hall, Taintor Homestead







SECTION  
SCALE 1/2" = 1'-0"

ELEVATION  
SCALE 1/2" = 1'-0"

PLAN  
SCALE 1/2" = 1'-0"

SIDE  
ELEVATION  
OF BASE

FRONT  
ELEVATION  
OF BASE

DETAILS 1/2 FULL SIZE

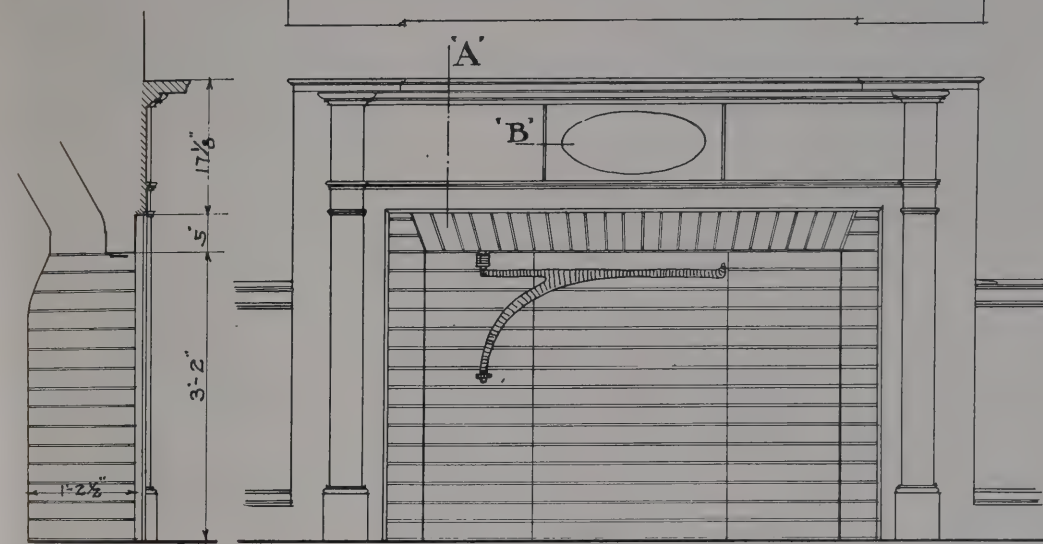
ELEVATION OF CAP

SECTION A

SITTING ROOM MANTEL  
THE TAINTOR HOMESTEAD  
- EAST AVON - NEW YORK -  
ERECTED 1812

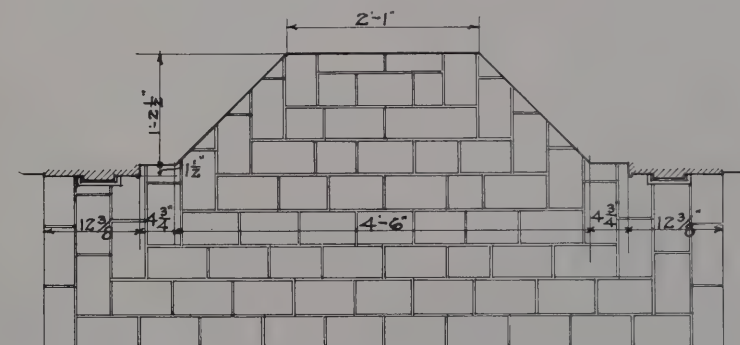
MEASURED & DRAWN BY GEORGE FULTON JR. N.Y.C.

PLAN OF SHELF



~ SECTION ~

~ ELEVATION ~  
SCALE 1/2 INCH = 1 FOOT



~ PLAN ~

SECTION AT 'B'

BASE OF  
PILASTER

SECTION  
AT 'A'

BASE MOLD

DETAILS 1/2 FULL SIZE

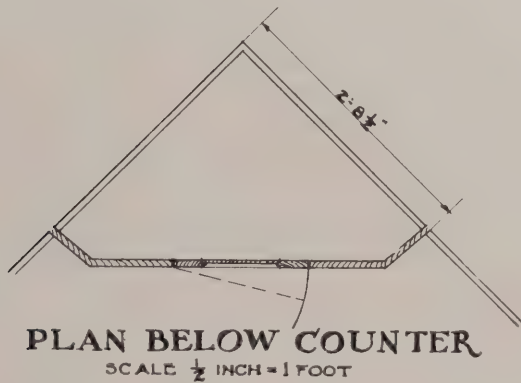
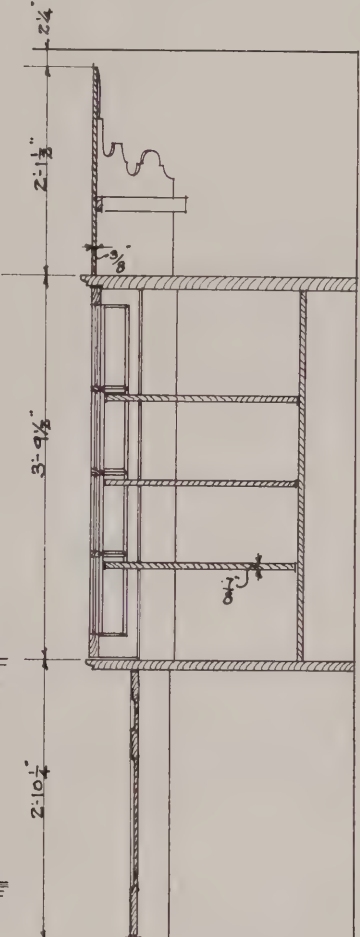
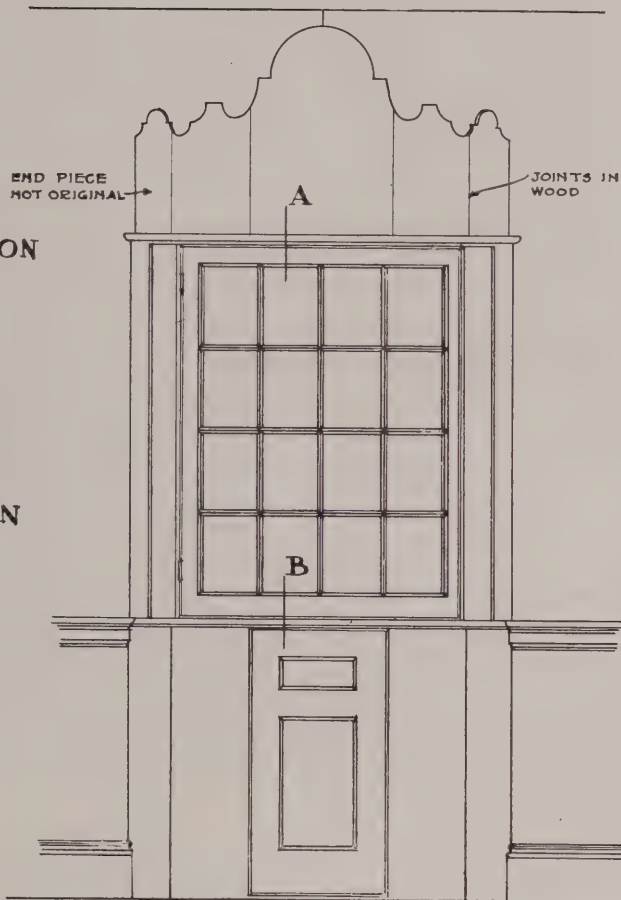
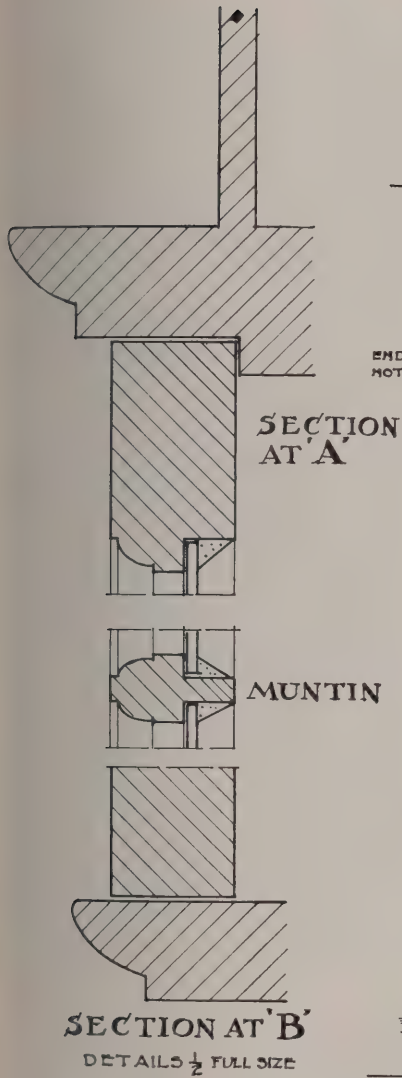
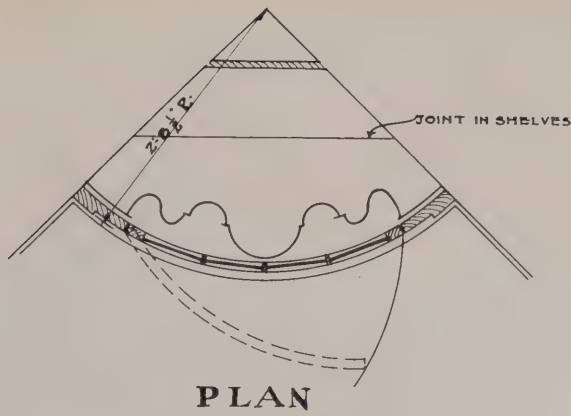
~ DINING ROOM MANTEL ~  
THE TAINTOR HOMESTEAD  
- EAST AVON - NEW YORK -  
ERECTED 1812

MEASURED & DRAWN BY  
GEORGE FULTON JR.  
NEW YORK CITY



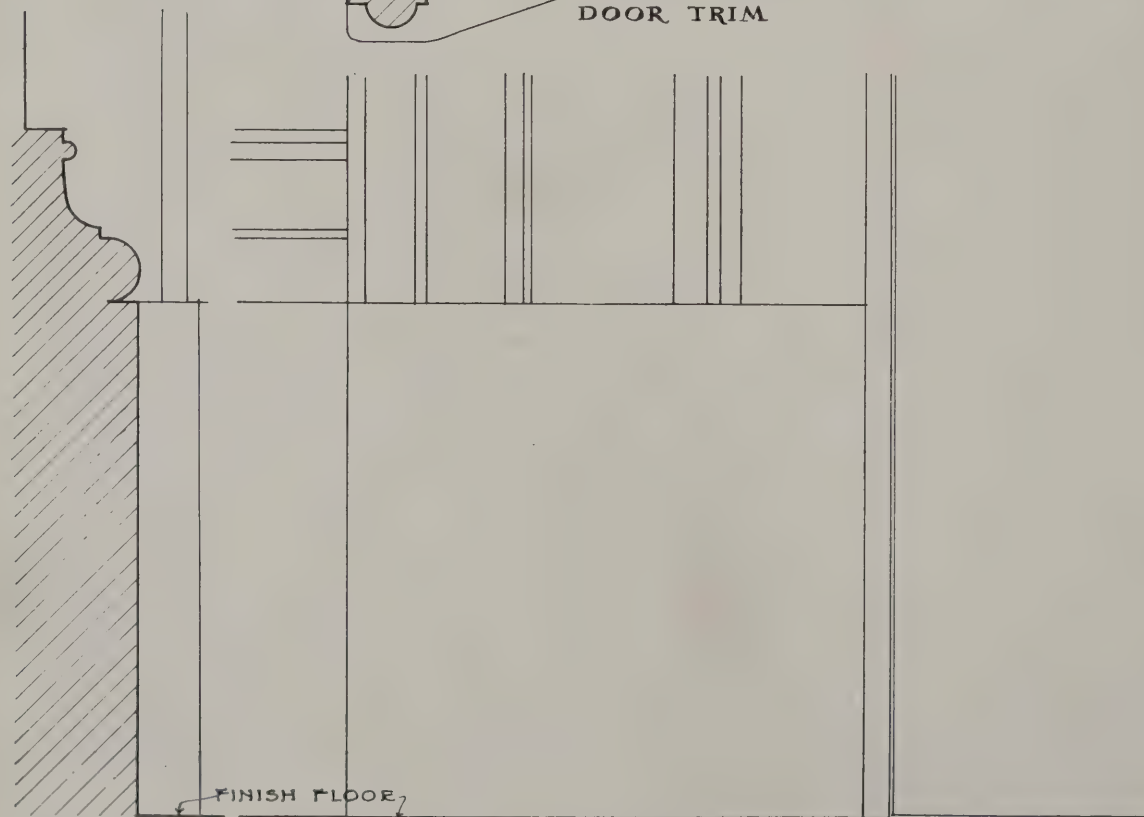
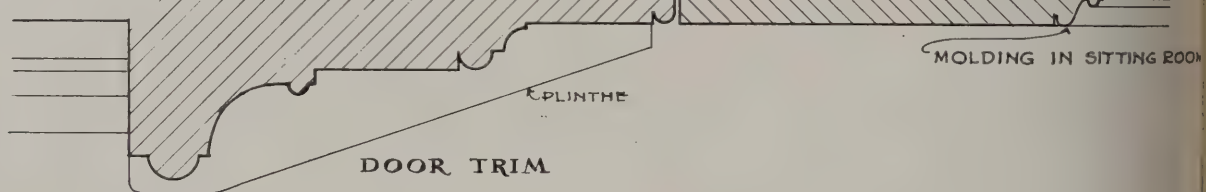
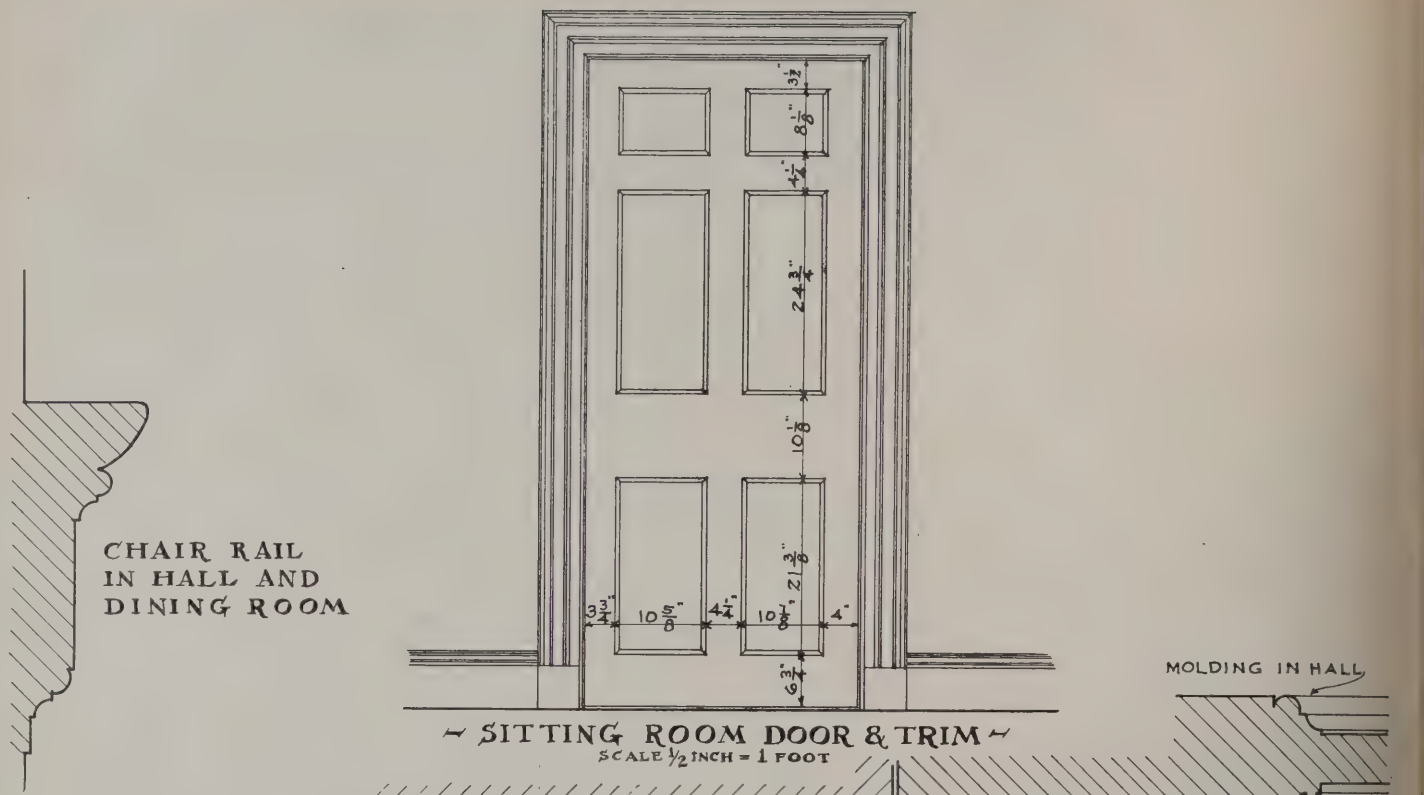
China Closet and Doorway, Taintor Homestead  
Measured Drawings on Pages 255 and 256





~ CHINA CLOSET ~  
 THE TAINTOR HOMESTEAD  
 • EAST AVON • NEW YORK •  
 ERECTED 1812

MEASURED & DRAWN BY  
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DETAILS 1/2 FULL SIZE

~ INTERIOR DOORS AND TRIM ~  
**THE TAINTOR HOMESTEAD**  
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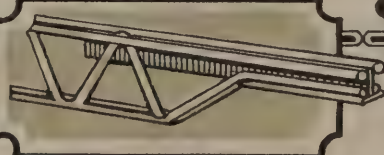
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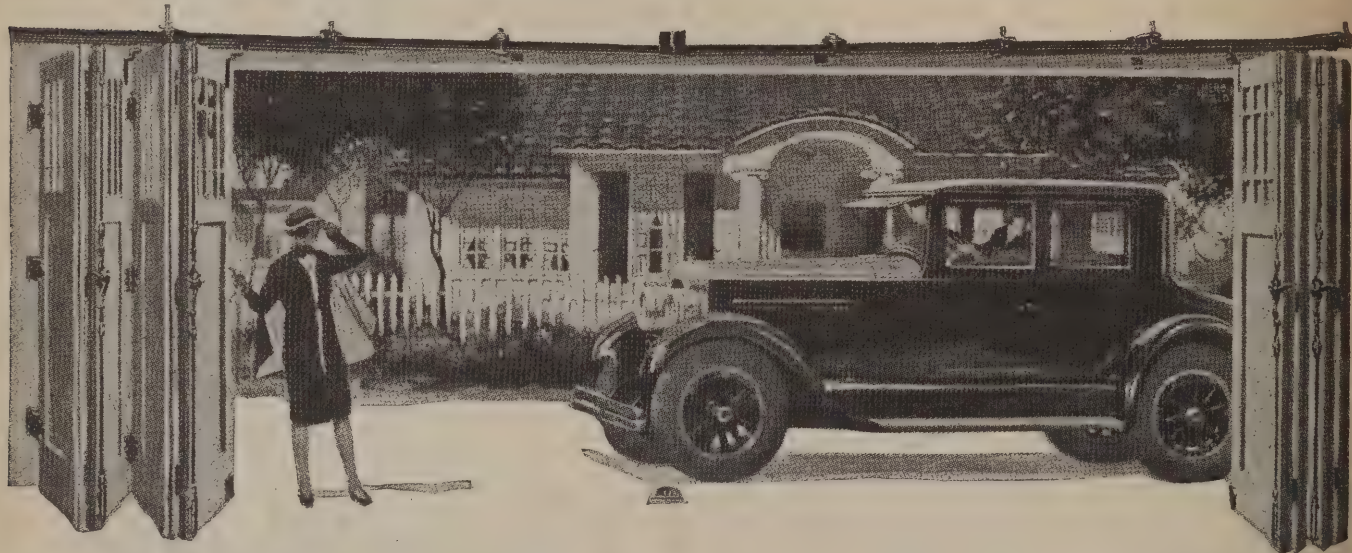


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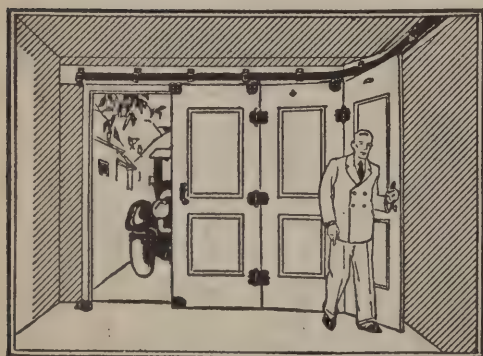
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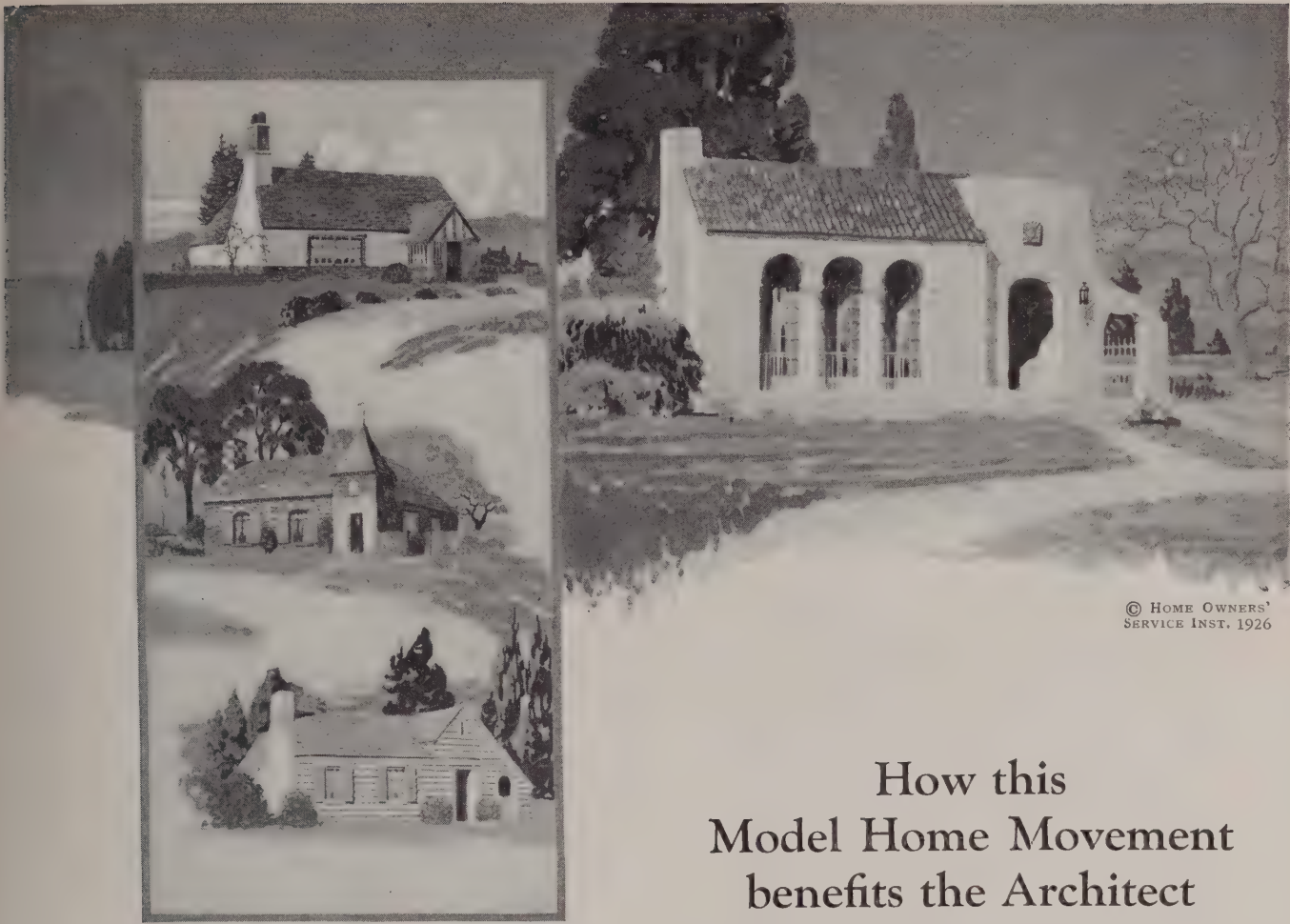
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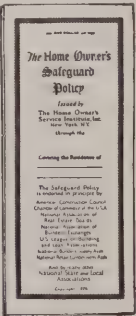
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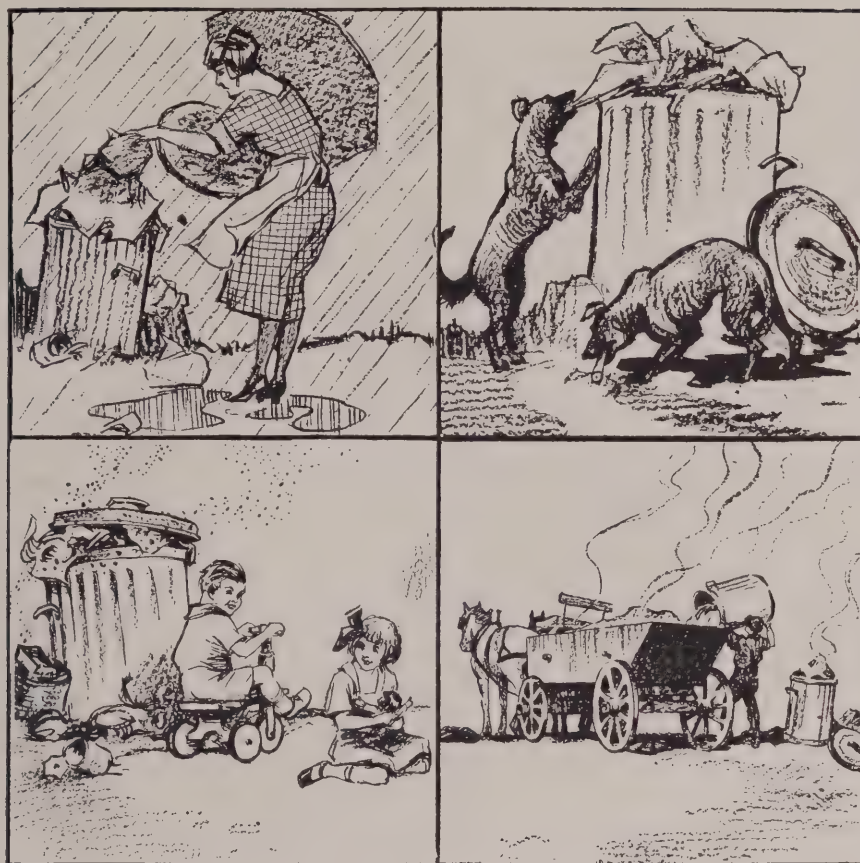
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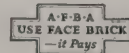
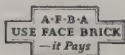
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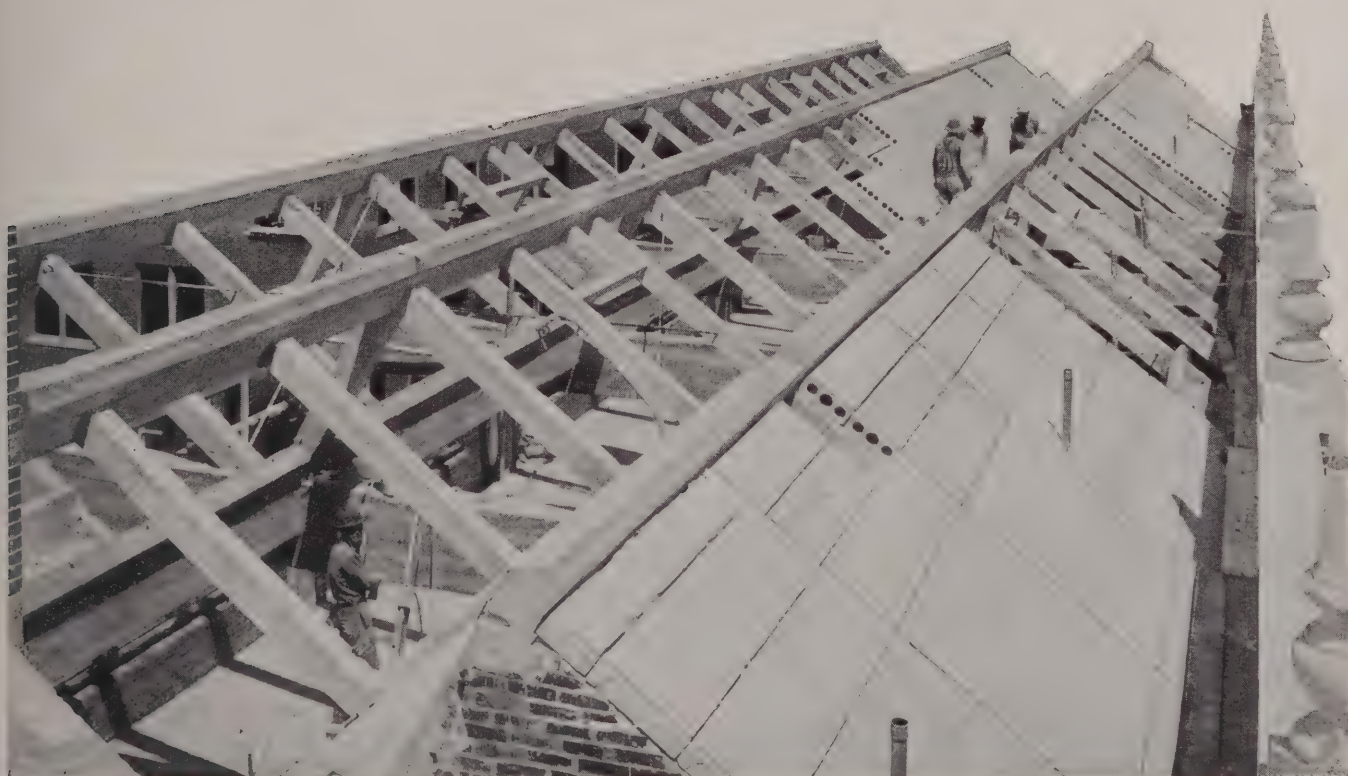
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# BOOK DEPARTMENT

## The Furniture of the Antique World

A Review by EDWIN J. HIPKISS  
Museum of Fine Arts, Boston

A STUDY of the history of furniture making brings the firm belief that there happen from time to time periods when there is a golden mean of men, materials and media. These periods come between epochs of primitive endeavor and epochs of overburdened means; the results of the first are likely to be meager, and the results of the latter are likely to "exceed their authority," for furniture as a rule should keep its place. It may seem a far cry to compare the furniture of eighteenth century America favorably with that of classical antiquity, but in this volume Miss Richter touches on their close kinship. Throughout endless centuries skilled artisans in wood have discovered and rediscovered the niceties of joinery, of grain, and of dove-tailed, wedged and mortised and tenoned joints, all sound constructions and within the limitations of their material. Necessity, structure and proportion are perhaps the factors in a correct concept of artistic furniture as we see it exemplified in the work of all ages.

The concluding chapter of the book has to do with technique, and it is most informing, for we are told authoritatively of the kinds of wood in use, of the methods of joinery, and of the tools used by the workmen. That the worker in wood was held in high esteem even in Homer's time is interestingly shown by this quotation from the *Odyssey*: "Who is likely to invite a stranger from a foreign country, unless it be one of those who can do a public service as a seer, a healer of hurts, a carpenter, or a bard who can charm us with his singing? Such men are welcome all the world over." To complete this volume on ancient furniture there are an appendix and a number of plans and diagrams by Mr. Barker, and these should prove most useful for practical purposes. Altogether, the text, the illustrations, the typography and the general make-up of the book make a pleasing presentation, a very readable and valuable work, based on thorough research and much learning. To designers, artisans, students or collectors, in fact to everyone interested in old or new furniture as an element in settings of artistic

significance, this book by Miss Richter, of the staff of the Metropolitan Museum of Art, will, it seems, be welcome.

Our indebtedness to the architect, sculptor, potter and metalworker of classical antiquity can be recognized the more easily because of the existing examples of their work. But what of furniture? The author attempts

to answer that question with a fund of information gleaned from contemporaneous representations and from descriptions or references found in the literature of the times. We are shown the means of learning a great deal about the actual appearance of furniture that is now practically non-existent. For inasmuch as the furniture of all ages was chiefly of wood, we do not expect to see many surviving examples from these far-off centuries. It is interesting to learn that the few specimens still in existence have been saved for us by the dryness of the climate in Egypt and the Crimea, where they have been found. It is chiefly in the countless scenes of daily life found on vases, or marble reliefs and in bronze and terra cotta statuettes that quite definite representations of truly antique furniture have come



Bronze Table in the National Museum, Naples

down to us. And there is an amplitude of such illustrations clearly shown in the pages of Miss Richter's book.

An examination of the many illustrations of the most characteristically Greek chair, the *klismos*, reminds us of Prof. Gilbert Murray's thought on the quality of restraint and clean-cut endeavor in the arts of ancient Greece. There are, he says two concepts of beauty,—there is the beauty of the much carved and decorated ship, as in the Chinese junk or the galleon of the sixteenth century, and there is the beauty of the modern racing yacht with nothing more than the utmost refinement of its essential lines and proportions. The latter in his opinion comes nearer to the spirit of Greek art.

**ANCIENT FURNITURE.** A History of Greek, Etruscan and Roman Furniture. By Gisela M. A. Richter, Litt. D., Metropolitan Museum of Art. With an appendix by Albert W. Barker, Director of Art Education, Wilmington, Del. 191 pages, 8½ x 11¼ ins. Price \$35. Oxford University Press, 35 West Thirty-second Street, New York.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM

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Approved by the Coöperative Apartment  
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¶ Erection of coöperative apartment buildings, already proceeding upon a considerable scale in different parts of the country, would be far more general had there been during the past few years any recognized source of general information upon the subject. Each time THE FORUM'S pages have contained an article upon some particular phase of the matter, letters of inquiry have been received at THE FORUM'S offices which amply proved the need of a volume which would sum up and present a review of the theory and practice of the coöperative apartment house movement, the practical value of which has now been widely demonstrated.

¶ Such a work has now appeared, prepared in the light of considerable successful experience and covering every phase of the organization and administration of a coöperative apartment house project; the forming of the owning corporation; the sale of tenant owners' stock; arrangement of owners' leases; erection of the building, and the conducting of the affairs of the association when once the building has been constructed and is in operation.

¶ To render the work of as practical a value as possible, inclusion is made of all the legal forms likely to be required, such as stock certificates, leases for stockholders and subleases, and the blanks used in the office of the association's secretary or bookkeeper. A number of pages are given up to describing various forms of publicity which have been found useful in attracting members to coöperative apartment house groups, and the volume contains the information which, regarded from every point of view, has been required. It should supply a powerful stimulus to the coöperative movement by promoting a correct understanding of its fundamental principles.

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**A BACKGROUND TO ARCHITECTURE.** By Seward Hume Rathbun. 395 pp., 5½ x 8½ ins. \$4. Yale University Press, New Haven.

THESE pages have made frequent mention of volumes calculated by their authors to interpret to the public the why and wherefore of architecture, to set forth its *raison d'être*, to designate its aims, and to describe the means and methods by which these are attained. It is not possible to deal separately with history and architecture, for viewed in one way architecture is history given visible and tangible form. Architecture, in fact, in certain of its developments presents a concrete picture of the civilization of the age which gave it birth; among many buildings which are the embodiments of the civilizations of their times there might be mentioned the Parthenon as representing the culmination of Greek perfection, Notre Dame or Amiens as standing for thirteenth century France, and the modern "skyscraper," with its steel supporting frame and flimsy walls of brick or terra cotta, which we are sometimes told is representative of the unstable, make-believe civilization of America in the nineteenth century or the twentieth;—and the setting forth of the interactions of history and architecture and the interpretation of the results which these interactions produced are among the functions of architectural criticism. It would be scarcely possible to produce from a field already so well tilled much that is original or strikingly new. The well known and familiar subject matter must perforce be used over and over again.

"To make these things clear in a simple way is the present aim. Some years of teaching the beginnings of architectural knowledge have shown the need of such a preface to the existing histories, which, from the very largeness of the subject, often confuse one who has not the key to the mystery, by their mass of facts and specialized terms. There is no intention here to duplicate what they have already given so adequately, to take arbitrary positions on debated questions, or to dictate to anyone in matters of taste; there is merely an endeavor to show forth the principles on which the recognized architectural achievements have depended for their success, to explain how intimately these achievements have been connected with the other manifestations of the period or race which produced them. It is the big facts and their relationships which will interest us, relationships which, tying architecture to all the other phases of civilization, must be realized before architecture itself can properly be understood. No fact or development that has been significant in the past has ever stood alone, but each has been the result of causes still further in the past, which have made it possible, and of conditions contemporary with it, which have modified its character. So also with the present and the future. What we are doing today is as dependent on the things which lie behind us as on those which make up our daily lives, and what the generations to come will achieve must, in part, be caused by our success or failure now. All the grouped factors of civilization create the background for any one phase of civilization which we may be studying, and that is one point of view from which we shall consider architecture, tracing how, in its successive stages of development, it became to some extent the background for its own future and how it was complicated, as a background, by the other forces acting at the time of its production."



**DESIGN OF CONCRETE STRUCTURES.** By L. C. Urquhart and C. E. O'Rourke. 501 pp., 5 $\frac{3}{4}$  x 9 ins. Price \$4. McGraw-Hill Book Co., Inc., New York and London.

CONCRETE, a material largely employed by the ancients, and particularly by the Romans for the construction of their great engineering works, has during the past 25 years been growing rapidly in use in America. But in addition to much regarding the use of concrete which the modern world has learned from antiquity, much has been added which has been the result of experience. Probably most of the concrete now used is reinforced by steel, thus adding enormously to its strength, and the use of modern mixing machinery has done wonders in adding to the value of this most useful material. Concrete is composed of ingredients easily procurable almost everywhere, and possibly the very ease of securing them has been responsible for wide mis-use or rather abuse in the use of the material. Many builders and even some engineers seem to feel that any mixture made up of cement, stone, sand and mortar which will attain a certain degree of hardness constitutes concrete, and acting on this theory has been the cause of much building which has been clumsy and awkward even when it has not utterly failed. Mixing of concrete should be most carefully done; only the proper kind of each of the materials employed should be used, and the manner of mixing is a matter upon which much depends. Engineers and builders would do well to study with care the minutiae of mixing concrete.

The authors of this useful work are the Professor and the Assistant Professor of Structural Engineering at Cornell University, and the purpose of the volume is to provide a text book on concrete and reinforced concrete which can be used in conducting the elementary courses given in schools of engineering; it does not attempt to cover the entire subject of concrete construction. Naturally, the development of the work has been influenced by the authors' experience as teachers, and it has been their aim to give a development of theory with a sufficient number of problems of illustration to insure the student a firm grasp upon what are the real fundamentals.

**HANDBOOK OF DOMESTIC OIL BURNING.** "Tentative Edition." 224 pp., 4 $\frac{1}{2}$  x 7 ins. Price \$2. American Oil Burner Association, 350 Madison Avenue, New York.

THE compilers of this highly useful manual preface its pages with a "Foreword" which says that owing to the recent origin and rapid growth of the use of oil for fuel there have not yet been secured adequate data, particularly in published form, and that this is therefore but a "tentative" work. Its closely printed pages, however, filled with data which could be nothing less than the result of careful research, suggest far more than the foreword leads one to expect and suggest rather at least a solid and firm foundation for a work which shall possess a permanent value. The subject of use of fuel oils is of course highly important to architects, particularly to such as specialize in domestic work, and while the entire volume deserves and will amply reward close study, architects will be particularly interested in Chapter XIII,—"Oil Burning and The Architect." This chapter covers the subject quite fully, and one very helpful detail is the inclusion of many plans of basements for houses of different sizes, suggesting layouts in which provision is made for use of oil-burning apparatus.

## GRADE SCHOOL BUILDINGS; BOOK II

IN no department of architecture have the last ten years seen quite the progress which has been made with schoolhouses, a class of buildings of the first importance, since they exert a strong influence upon their communities, and by their architectural excellence or the lack of excellence they elevate or lower the architectural standards of entire districts. Study of school structures, particularly at the hands of a group of well known architects, has resulted in their being given a high degree of architectural distinction and dignity in the way of design, while study directed toward their planning and equipment has led to their being practical and convenient far beyond what was regarded as an advanced standard of efficiency anywhere in America even a few years ago.



Kensington Schoolhouse, Great Neck, N. Y.

Wesley Sherwood Bessell, Architect

THIS volume, a companion to another published in 1914, records the results of endless study and experiment in different parts of the country, summed up and presented. By illustrations of exteriors and interiors, by floor plans and carefully written descriptions and articles by well known architects and educators, the present high standard of schoolhouse design is made plain, and these results which have been achieved by a few architects and school boards are thus made possible to all architects who are interested in schoolhouse design. The compiler has selected from almost 1000 exteriors and floor plans the school buildings to be illustrated, and the volume records "a process of innovation and elimination, namely, the introduction from time to time of features which have been deemed desirable and practical, and the elimination of things which, owing to changed school methods, are no longer required."

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**THE EARLY ARCHITECTURAL HISTORY OF THE CATHEDRAL OF SANTIAGO DE COMPOSTELA**, By Kenneth John Conant. Plates, plans and 58 pp. of text 8½ x 12 ins. Price \$5. Harvard University Press, Cambridge, Mass.

**D**URING the past few years archæologists have been devoting research and scholarship to the study of the Romanesque remains of Spain, France and northern Italy, a treasury of architectural design, which besides being surpassingly and superlatively rich is comparatively little known. Architecture of this type found its use largely in churches, cathedrals and monastic houses, and had its origin and the greater part of its development during the eleventh century, when much of the popular religious fervor (which later was to find such marvelous fruition in rearing the Gothic cathedrals) sought expression in pilgrimages to the tombs of the saints,—and in western Europe no shrine drew to itself more devotion than that of St. James the Apostle, in northwestern Spain. Upon this shrine there were lavished for centuries the gifts of throngs of the faithful as the first humble beginnings in the form of a wayside chapel gave way to an ever and ever larger church,—always “too small for such great glory,” until at length the tomb of the apostle was marked by one of the supreme glories of Spanish architecture,—the Cathedral of Santiago de Compostela, brought into being by the united efforts of Spanish kings and bishops and hosts of pilgrims from Italy, France, Spain, the British Isles and from all of western Europe, all of whom made their contributions.

The cathedral, as it appears today, shows that builders

have used upon its fabric all the architectural styles which have been current in Europe from pre-Romanesque to the particular version of the Spanish Renaissance which students know as “Plateresque.” It presents an appearance imposing indeed, placed as it is upon an eminence and with its strikingly stately Spanish Renaissance towers dominating the cathedral and the rambling mass of accessory buildings, episcopal palaces and the other structures which during almost a millennium have been grouping themselves about its base. The Romanesque character of the church is perhaps most marked within, although alterations in other and later architectural styles have altered considerably what must have been its original appearance, and the interior loses something of what would otherwise be its impressiveness because of the peculiarly Spanish arrangement of the choir (*coro*), which by blocking up the area beyond the junction of nave and transepts interferes with the view which might be had from the west end of the church to the feretory, which is situated behind the high altar.

The volume is a notable and most valuable addition to the number which have already appeared upon the architecture of the mediæval period and the epoch which immediately preceded the mediæval age. The work gives every evidence of thoughtful, painstaking scholarship, and its abundant documentation, its frequent references to other published works, and its many plans and other drawings afford valuable data to later students who may undertake further archæological research into a rich and little known passage of European architectural history.

## “CHURCH BUILDING”—By *Ralph Adams Cram* (A NEW AND REVISED EDITION)

**T**HE improvement which has accompanied the progress of American architecture during recent years has been no more marked in any department than in that of an ecclesiastical nature. This has been due primarily to the rise of a few architects who by travel and study have acquired much of the point of view from which worked the builders of the beautiful structures which during the fourteenth century and the fifteenth were being built over all of Europe.

These architects have closely studied the churches, chapels, convents and other similar buildings in England, France, Spain and elsewhere, and the result has been a number of American churches of an excellence so marked that they have influenced ecclesiastical architecture in general and have led a distinct advance toward a vastly better standard. This improvement has not been exclusively in the matter of design, for plans of older buildings have been adapted to present-day needs, and old forms have been applied to purposes which are wholly new.



**T**HE appearance of a new and revised edition of a work which is by far the best in its field records this progress. Mr. Cram, being perhaps the leader among the architects who have led this advance, is himself the one individual best qualified to write regarding the betterment of ecclesiastical architecture. The editions of this work of 1900 and 1914, which have for some time been out of print, have now been considerably revised and much entirely new matter has been added,

which in view of the change which has come over ecclesiastical building of every nature is both significant and helpful.

Illustrations used in this new edition of “Church Building” show the best of recent work—views of churches and chapels large and small, in town and country, buildings rich in material and design and others plain to the point of severity, with the sole ornament in the use of fine proportions and correct lines. Part of the work deals with the accessories of the churches and their worship.

345 pages, 6 x 9 inches, Price \$7.50

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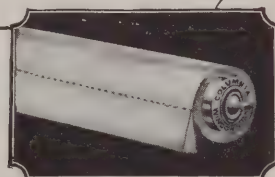




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# The ARCHITECTURAL FORUM

VOLUME XLV

NUMBER 5

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PARKER MORSE HOOPER, A.I.A. Editor

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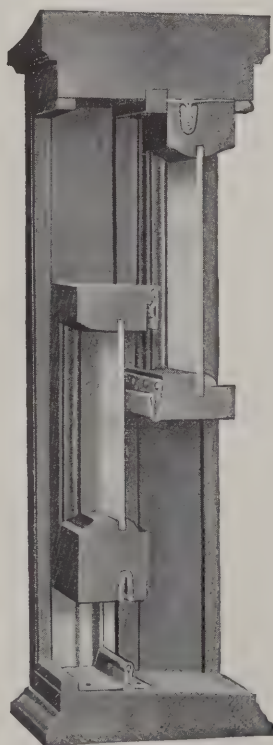
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# THE EDITOR'S FORUM

## A SMALL HOMES COMPETITION

TO aid home builders in the suburbs of every American city, as well as those in the vicinity of Chicago, *The Chicago Tribune* has instituted a "Small Homes Competition." On Sunday, September 12, *The Tribune* made announcement of the scope of the competition, which is for designs and plans for two classes of houses, one being a five-room house with two bedrooms, the other a six-room house with three bedrooms. Architects, architectural draftsmen, and students are invited to submit one, but not more than one, design in each class. All draftsmen, whether licensed or not, are eligible as competitors. These prizes, aggregating \$7,500 in cash, will be awarded to the architects or draftsmen submitting winning designs: For first prize design in each class, \$1,000 each; for second prize design in each class, \$750 each; for third prize design in each class, \$500 each; for fourth prize design in each class, \$300 each; for fifth to tenth prize designs in each class, \$200 each. The designs in this competition need not be limited to any period,

The jury of award for *The Chicago Tribune* Small Homes Competition includes: John Mead Howells and Raymond M. Hood, architects of *The Tribune* Tower; Louis James Bargelt, Home Builders' Editor of *The Chicago Sunday Tribune* Real Estate and Home Builders' Section; Al Chase, Real Estate Editor of *The Chicago Tribune*; Holmes Onderdonk, Manager of *Chicago Tribune* Properties. Earl H. Reed, Jr., of the American Institute of Architects, will act as professional adviser. Each set of prize winning designs will be published in *The Chicago Tribune's* Sunday Real Estate and Home Builders' Section beginning with Sunday, January 2, 1927, and continuously each Sunday thereafter until all the plans have been presented. Further details regarding the competition, which will close at 5 o'clock, Wednesday, December 1, 1926, may be had of *The Chicago Tribune* Small Homes Competition, Tribune Tower, Michigan Avenue, Chicago.

## MORE LOW COST APARTMENTS

ENCOURAGED no doubt by the success of its experiment in providing low cost housing in Greater New York, the Metropolitan Life Insurance Company is now considering extending the benefits of its operations to other cities, according to a recent statement by Haley Fiske, president of the company. The suggestion is based upon the successful construction of apartment houses with rentals at \$9 a room in Queens, which Mr. Fiske announces is returning 8.8 per cent profit on the investment. Under the state law the company is allowed to keep 6 per cent, and the rest is being applied to income tax payments and to wiping out the original investment. Fifty-four apartment houses were built, cost-

ing, with the land, \$7,500,000. They are occupied by 2,125 families. Mr. Fiske announces that the Metropolitan is ready, if protected by legislation similar to that in New York, to undertake to improve housing conditions in the country outside New York.

## ANOTHER COVER COMPETITION

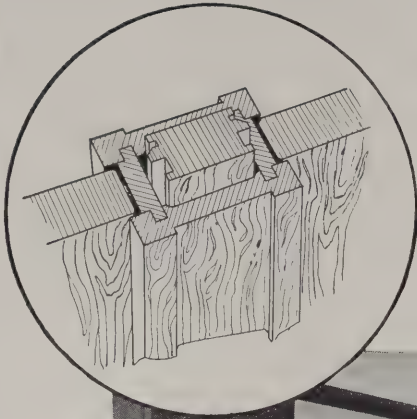
THE holding of *The House Beautiful* cover competition has been an annual event for the past four years. The announcement of the fifth competition offers, in addition to the first prize of \$500, four special prizes of \$250 each, and six honorable mention awards. The student certificate of merit (with honorarium), offered for the first time last year, is continued this year for students of any school of art. The exhibition of 100 or more of the best designs, which has been a feature of the competition since the beginning, will be considerably extended this year, and covers will be shown in all the important cities from coast to coast. The competition closes January 14, 1927. Full particulars regarding it may be obtained from the Competition Committee, *The House Beautiful*, 8 Arlington Street, Boston.

## CORRECTIONS

PLATES 39 and 40 of THE ARCHITECTURAL FORUM for September illustrated the Masonic Temple at Greenwich, Conn. By an oversight an error was made in giving proper credit for the designing of the building, which was the work of George B. Post & Sons, with F. G. G. Smith in collaboration.

ON page 143 of THE FORUM for September it should have been said that degree rooms of fraternal buildings may well be placed upon second floors where they are planned to seat 1,000—not 100. The designing of the Scottish Rite Cathedral at San Antonio should have been credited to the Herbert M. Greene Company, Ralph Cameron supervising.

IN connection with our article on "The Planning and Construction of Swimming Pools" in the September issue of THE ARCHITECTURAL FORUM we have received an interesting and informative letter from Mr. J. Francis Booraem, M. E., too long to print in full, but advising us that the illustration of the "shell and lining of a swimming pool" and "coping, overflow gutter and drain" shown on page 187 are details of swimming pool construction designed and patented by him, and available only by arrangement with him. The illustrations in question were selected by the editors as adding to the value of the article, and were taken from among the technical illustrations of *Sweet's Catalogue*, 1924-25, pages 458 and 460, where they appear without indication of patent or copyright, which accounts for the error.



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JOHN RUSSELL POPE, ARCHITECT

From a Rendering by Otto R. Eggers



# The ARCHITECTURAL FORUM

Volume XLV

NOVEMBER 1926

Number 5

## The House of Moses Taylor, Esq., Portsmouth, R. I.

JOHN RUSSELL POPE, Architect

By LEIGH FRENCH, JR.

THE house of Moses Taylor, Esq., at Portsmouth, recently designed by John Russell Pope, is characteristic of a trend that has steadily become more and more pronounced in American country house architecture during the past few years. It is that marked trend toward the assimilation of French rural types as a basis of composition. The French prototype serves as a point of departure, so to speak, a source from which appropriate derivations may be freely drawn, and a body upon which acceptable and consistent adaptations may be grafted.

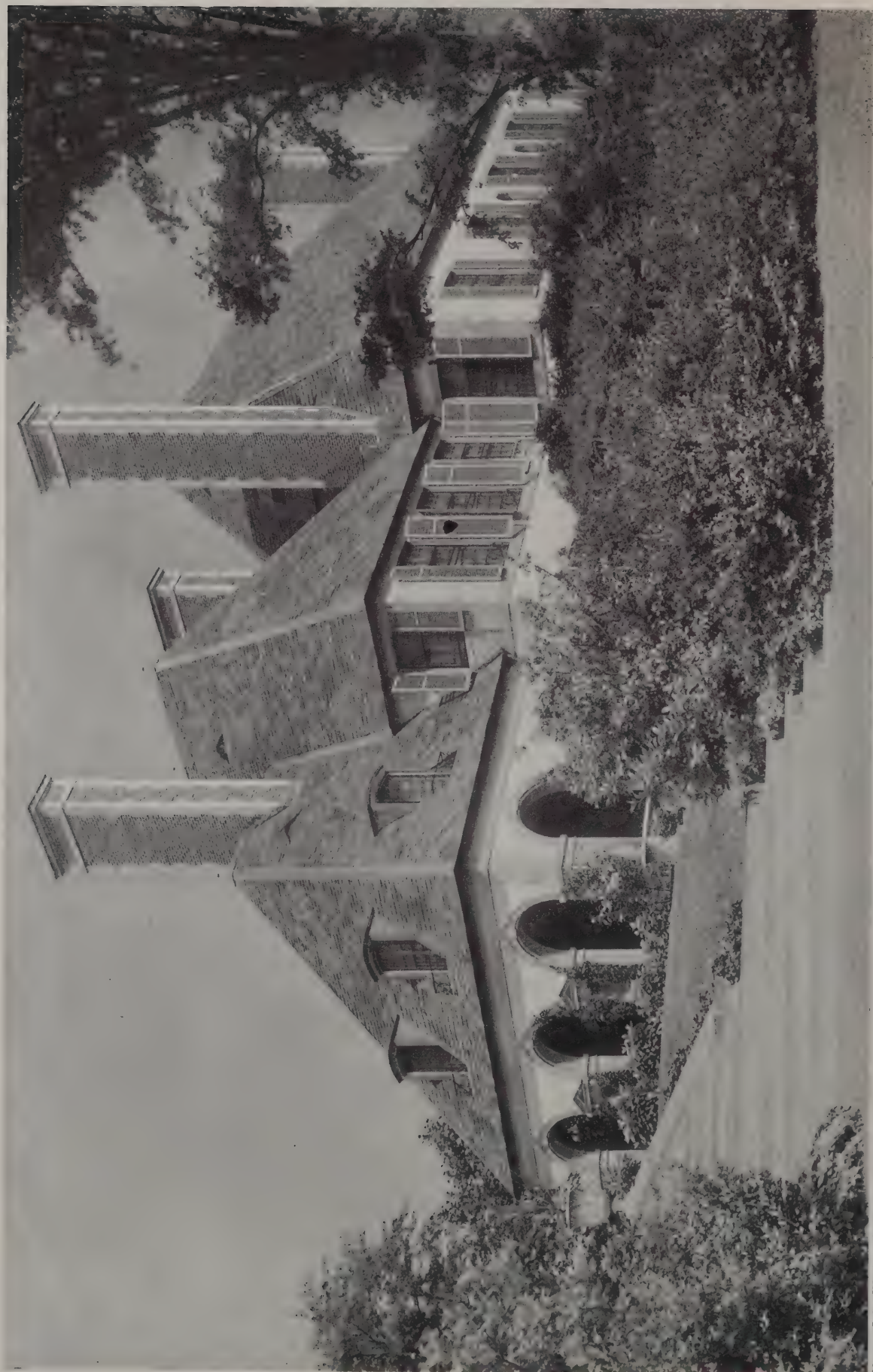
It is not the first time in the history of American architecture that France has furnished inspiration which has exercised a marked effect in the field of domestic design. In the early years of the republic, when feeling was particularly strong, French fashions had a profound influence, and this influence was reflected in domestic architecture as well as in the sort of clothing people wore, the kind of furniture with which they equipped their rooms, and all the sundry polite details that went to make up their environment. Unfortunately, a good many of the houses of that date have either entirely disappeared or else been so altered that the real source of their original inspiration is not readily obvious. The furniture of the time, however, and its minor accompaniments bear unmistakable witness to their derivation, while contemporary prints tell no uncertain story on the score of costume at that distant period.

How far this following of French precedents was the result of mature judgment and reasoned conviction in point of taste, and how far it was a matter of favorable sentiment enhanced by the glamor of novelty and appeal to the popular imagination, it would now be exceedingly difficult to say. We shall probably not be far wrong in attributing the wide prevalence of the French vogue to both causes combined. We are reasonably safe in assuming that when Chancellor Livingston built his house on the banks of the Hudson and filled it with choice French furniture, and that when Gouverneur Morris brought home sundry *objets d'art* that he had gathered during his residence in Paris and installed them in Morrisania, they were actuated by the discriminating

taste of cultured gentlemen. We are likewise safe in assuming that when the people of Philadelphia winned and dined "Citizen Genet," and danced about liberty poles they were moved purely by highly stimulated sentiment. Friendship for France was in the air.

The current trend in favor of French domestic types is based on a more stable foundation. It cannot be ascribed to any sentimental enthusiasms that have captured the popular fancy at the expense of calm judgment. On the contrary, the acceptance of French inspiration at the present day is conditioned by cool discernment and a carefully reasoned appraisal of its worth. It stands altogether upon its own intrinsic merits. Open-minded readiness to accept and assimilate whatever is good, no matter from what particular source it may be derived, has always characterized American architecture in its best epochs. With the willingness or even eagerness to accept fresh material for assimilation, however, there is reserved the liberty of rejecting what is not suitable for the purpose. It is in this spirit of impartial discrimination that Mr. Pope and others working in substantially the same vein have employed French rural types as a growth suitable to be transplanted, acclimated and cultivated on American soil with promising results. In so doing they have not at all surrendered the rights and opportunities of manifesting originality and their own individuality of interpretation. Indeed, as the outcome plainly indicates, they have rather emphasized the factor of creative design and broadened its scope or application.

Certain prejudiced critics, both lay and professional, who contend that French domestic types are exotic to America and therefore unsuitable for employment, put themselves in an absurdly indefensible attitude. As a matter of pure history, every mode of domestic architecture of which America can boast has been at some time of exotic derivation; the only really *indigenous* American types are to be found in the Indian wigwam and the house of wattles covered with the bark of trees. So far neither of these types has proved a promising source of architectural inspiration. If this restrictive program of rigidly excluding everything "exotic" were to be carried to



*Photos, John Wallace Gillies*

HOUSE FROM THE GARDEN, ESTATE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT





DETAILS, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT



One View of the Entrance Facade

its ultimate logical conclusion, we should have no peaches, no pears, no cherries, no bricks, no silk, no roses, no potatoes,—in short we should be reduced to a state of voluntary savagery and utter destitution. It is sheer madness to dream of staying the course of evolution, whether in the general accompaniments of civilization or in the modes of architectural expression. The adaptation of fresh material is the means by which architecture is enriched and maintains its vitality. It is certainly the means by which domestic architecture in America today has attained the merits it possesses. Furthermore, French provincial domestic types are not exotic to England or America in the sense in which Italian or Spanish types might perhaps be termed exotic. With three factors that markedly affect French architectural style,—climatic conditions, materials, and general topographical characteristics,—having many close resemblances to the same factors in America, it is not unreasonable to regard with more than passing interest the type of domestic building in a land where the general trend and ideals of culture have much in common with those prevailing on the western side of the Atlantic. “There is nothing new under the sun” may be said as truly of architecture as of anything else. Novelty and originality are wholly dependent upon the personal equation. Creative originality in architectural design proceeds from the way in which the individual interprets, adapts, modifies



General View, Showing Garage and Servants' Wing



and combines the precedents at his disposal. Originality of design is fundamentally a selective and evolutionary process, and all worthy originality of architectural design has come by the channel just noted, not by contemptuous avoidance of precedents and an obstinate determination to produce something wholly new and totally unlike anything seen before.

Taking a type of provincial French house as a theme to work upon, Mr. Pope has produced a composition which, while agreeably reminiscent of the historical source that served as the germ of inspiration, is replete with the characteristics of individual interpretation, so that the distinctly personal quality of the conception is plainly apparent. As a matter of fact, while the French element has given the dominating tone, there are also elements of unmistakably Italian origin happily incorporated, so that the composition carries the easy air of truly cosmopolitan poise, a graceful, refined sophistication.

The plan is thoroughly American and thoroughly in accord with the domestic requirements of the present day. However acceptable may be the external style of the provincial French house as a factor of composition, there are comparatively few French country houses of the eighteenth century, or earlier, whose plan would satisfy even the least exacting American client. The American plan is fully organized and thoroughly articulated. It is easy to follow the purpose of all its parts at a glance and,



The Garden, from the Veranda



The Garden Facade



TREILLAGE ON THE VERANDA, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT





ENTRANCE GATES, ESTATE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT



quite naturally, it is carefully calculated to meet the requirements of the American mode of living and American methods of household management. The plan of almost any French country house, of a type likely to prove agreeably suggestive in point of external style, would appear incomprehensible and totally inadequate for convenience and comfort in its arrangement. The order of living in the one case is almost wholly different from the order of living in the other, and in any instance where French provincial precedents supply the motif from which a scheme of composition is adapted it is safe to assume that the French plan will prove of little or no value. With this fact in mind, it is worth noting that Mr. Pope has retained an external feature of admitted interest in composition and logically fitted its presence into the plan. The square tower projecting from the southwest front accommodates the staircase and makes it possible to provide a long, unobstructed cross hall connecting or drawing together all the principal rooms on the ground floor.

The south loggia, overlooking the flower garden and pool, is distinctly Italian in conception and treatment and is one of the most engaging external features of the house. There is nothing characteristically French about it, except the *treillage* on the piers within the arcade, and yet it fits perfectly into a body of obviously French inspiration without doing violence to the sensibilities of the most archaeologically inclined stylist. It is just by such skillful bits of manipulation and combination of precedents drawn from widely variant sources that the architect not only manifests his own sane originality but also justifies the eclectic practices to which American domestic architecture today owes no small share of the interest and freshness which render it notable.

Apart from this south loggia, which is quite appropriately carried out in a spirit of blithesome geniality in accord with its immediate environment and the purpose it serves, the exterior is composed with a degree of reticence and simplicity apparent only after close analysis. Viewed as a whole, the house does not impress one as being essentially austere in its expression, and yet it is not at all dependent upon an elaborately organized scheme of details to impart seemliness and suavity of finish. It is singularly free from all complexities of ornament.

There are no meticulously studied mouldings, and there is no cornice beneath the eaves. There is rigorous abstention from all manner of "jewelry" whose presence might have been condoned on the plea of customary convention. The single piece of deliberate decoration occurs in the treatment of the main doorway, and there the enrichment is fully justified for the sake of accent to emphasize the importance of a central feature and likewise to stress the simplicity of the rest of the composition. The flush

quoins and the string course between the stories can scarcely be put in the category of ornament. Their function, partly constructional in the case of the quoins, is chiefly to give definition and to articulate the ensemble. For the rest, whatever ornamentation there is proceeds from the necessary and indispensable items of constructive composition and the manner in which they are disposed,—the mass and balanced disposition of the several parts, the contour of the roofs, the proportions and placing of the chimneys, the rhythmical arrangement of the fenestration, the sizes and shapes of the penetrations, the character of the blinds and the



Boat House, Estate of Moses Taylor, Esq.

glazing of the casements, and, finally, the colors and textures of the materials. These are all the elements that enter into the ornamentation of the composition, and each and every one of them is a necessary and inevitable item of construction. Furthermore, each of them in itself is conditioned by the utmost simplicity of form. As a result this house, whose very essence resides in directness and simplicity without making a forced appeal to that end, has all the attractiveness and visual interest that are often arrived at by more artificial means. In actuality it is austere to the point of severity; in effect, it possesses grace.

One danger in adapting French provincial types to modern American use lies in the temptation to be carried away by the picturesque. The temptation is strong and readily yielded to. For instance, how often does one see houses admittedly designed from French provincial prototypes in which stuccoed wall surfaces have lost all the repose they ought to have through being cut up by brick band courses that can properly be used only where all the dimensions are conceived on a far broader scale than the adaptation usually exhibits! Nothing is more disastrous than this sort of futile striving after too many "features."



# Some Old Houses in Wiscasset, Me.

By M. O. GOLDSMITH

THOUGH considerably celebrated for the nautical enterprise of its inhabitants," Wiscasset was first accurately described, says the Rev. Alden Bradford, by himself in 1800. (See Collections of Massachusetts Historical Society for 1800, p. 280 and ff.) It was then a port of entry and delivery, deriving importance from its situation on the western branch of the Sheepscot River some 20 miles from the mouth of that wide and navigable estuary. The name "Wichcasset" had been given the spot by the Indians to denote the confluence of three tides. (See p. 267. Sewall.) For many years it had been a center of exportation of spar timber to Europe, but at the turn of the century the merchants residing there were chiefly employed in the West India trade, owning nearly 30 square-rigged vessels. Consequently there were "considerable wharves in this place, one of them 550 feet in length, . . . large and elegant dwelling houses, numerous stores, a meeting house and court house." Moreover, Wiscasset was the shire town of Lincoln County; it was on the post road from Boston to St. George's River, and got mail from Boston twice a week. Its only shame was that some of the common people imbibed too freely of spirits, and often drank tea twice a day, "which must be very injurious to the constitution," says their pastor and historian.

Wiscasset was among the several ports of the eastern states surveyed by Joshua Humphreys in 1801 for the purpose of ascertaining the best place for docks and navy yards. In his report to the Secretary of the Navy, from which extracts were published in the *American Review* for 1802, Humphreys sums up the advantages and disadvantages of New London, Newport, Boston, Charlestown, Portsmouth, Portland and Wiscasset. He rules out the Sheepscot port for these seasons:

- "1) Fogs that are frequent on this coast.
- 2) Great distance from the center of the Union.
- 3) Difficulty of procuring artificers and seamen.
- 4) Price demanded by Mr. Lee for his land and mills (on Birch's Point), being twelve thousand dollars."

But one can see that in spite of its remoteness and the price put upon the best land for docks by this Silas Lee, of whom we shall speak later, Wiscasset held a place of considerable commercial importance in 1802. Along came the War of 1812 with the paralyzing Embargo Acts and ruined the merchants. The town received an economic blow from which it never recovered, for maritime trade was not resumed from these Maine ports. From an architectural point of view we are indebted to this period of financial depression as we are to the volcanic eruption that preserved Pompeii as it was in its prime. There was no money during succeeding generations to reconstruct the fine old houses according to changing

fads. They remain today much as they were, although two of those illustrated here—the Carleton and Tucker houses—have undergone changes for the worse.

The oldest of the houses shown here is known as the Governor Smith house. It was erected by the Hon. Silas Lee soon after his title to the land had been perfected in 1792. I quote Mr. William Patterson of Wiscasset, to whom I am greatly indebted for authentic data concerning the various buildings: "Although an earlier date has been assigned for its erection, it does not seem to me likely that so careful a lawyer as Judge Lee appears to have been would have expended much money upon a piece of land to which he did not have a perfect title. Whether the entire house was erected that year, no one knows. The portion nearest to the meeting house (seen as the brick wing in the picture) appears to be older than the main house." Along in the 'thirties the house was bought by Samuel E. Smith, Governor of Maine 1831-33, and is still in his family. No alterations have been made, but the portico, which fell into neglect during the governor's long tenancy, was carefully restored from the original by his widow.

Before inquiring into the sources of the style of the house, it may be well to mention the various local building enterprises of Judge Lee. He built the Smith house around 1792. Then, on the stretch of 50 acres considered by the government as a site for navy yards in 1802, he built another notable house, since destroyed by fire, where he lived after leaving the Smith house. In 1807 he employed a Scotch architect, says tradition, to build the Tucker house, where he lived until his death in 1814. Records show that he owned a number of other houses from time to time, but whether they were all built by him cannot be determined. It seems safe to conclude that building houses was a hobby with him, aside from his legal duties, and that he had a keen sense of real estate values can be deduced from the price he put on Birch's Point. His architectural taste, while not based on technical training, was at least up-to-date. His biography reveals the fact that before coming to Wiscasset he had been where he would have seen and noted the best contemporary building in and around Boston. He was born in Concord, was graduated from Harvard in 1784, studied law at Biddeford, near Portland, and started his professional practice in Wiscasset, where he had a clear and, as it turned out, a fertile field; for during the strenuous days of the War of 1812, while he was Judge of the Probate, the courts were crowded with cases involving violations of the Embargo Act. All the commercial interests of the vicinity were against him, yet he was highly respected by his neighbors for devotion to his calling. (See Willis.)

Returning now to the first house built by Silas Lee, we can perhaps understand better the unusual





Flying Staircase in Tucker House

combination it represents of Colonial features—survivals of the early eighteenth century—and others showing post-Revolutionary, classical tendencies. I have an idea that the local builder followed his well thumbed carpentry books except when his employer took a hand and suggested something newer, such as the rounded portico. The house is a patriarch for dignity. So far as the engaged pilasters on the facade are concerned and the brick belt course at the side terminating before reaching the corner, the building might have stood on the site some 50 years before Lee bought the land. But the rounded portico could not have been earlier. Bulfinch used a semi-circular portico with free columns above an arcaded basement on the Barrel house, finished in 1792. Samuel McIntire sketched the facade and adapted the rounded portico on a small scale to the doorway of the Nathan Read house in Salem, dated 1793. (See p. 221, Kimball.) That, so far as is known, was the first of its kind in New England.

There is a possibility that the Smith house was built without a portico, but the plainness of the door itself would imply that in a house of this impressive type a portico enrichment of some sort was part of the initial plan. It is quite possible that the portico was not finished until a year or more after the house was started, as local buildings progressed slowly. I



Tucker House, Wiscasset, Me.

Built by Silas Lee about 1808



consider it a suggestion for modernity by Lee or by a friend who had seen the Barrel and Read houses, since no later owners or tenants of the house are known to have made any changes, and since rounded porticos are not to be found in the more familiar builders' guides available in 1792. I have looked through William and James Pain's English publications for instances of use of the guilloche appearing on the portico frieze. It is done in the heavier style that preceded the Adam refinement of similar classical motifs. Thus in "The Builder's Companion," published in London in 1758 (Plate 51), among other ornaments for the bases and sub-bases of pediments, is this identical guilloche. In a simpler form it is used on the belt course between the first and second stories in a design for a gentleman's house in William and James Pain's "British Palladio," published in 1786 (Plate 5). A year later William Pain published the original simple design of our portico, much elaborated with beaded mouldings decorating the twisted bands and with various types of rosettes in the centers of the circles. (See Plate 27, "Carpenter's and Joiner's Repository.") It is interesting to find that the large scaled fret on the soffits of the arches in the living room is also among the designs in the 1758 English edition of "The Builder's Companion" in which the guilloche appears. I take it that these two motifs represent the Georgian version

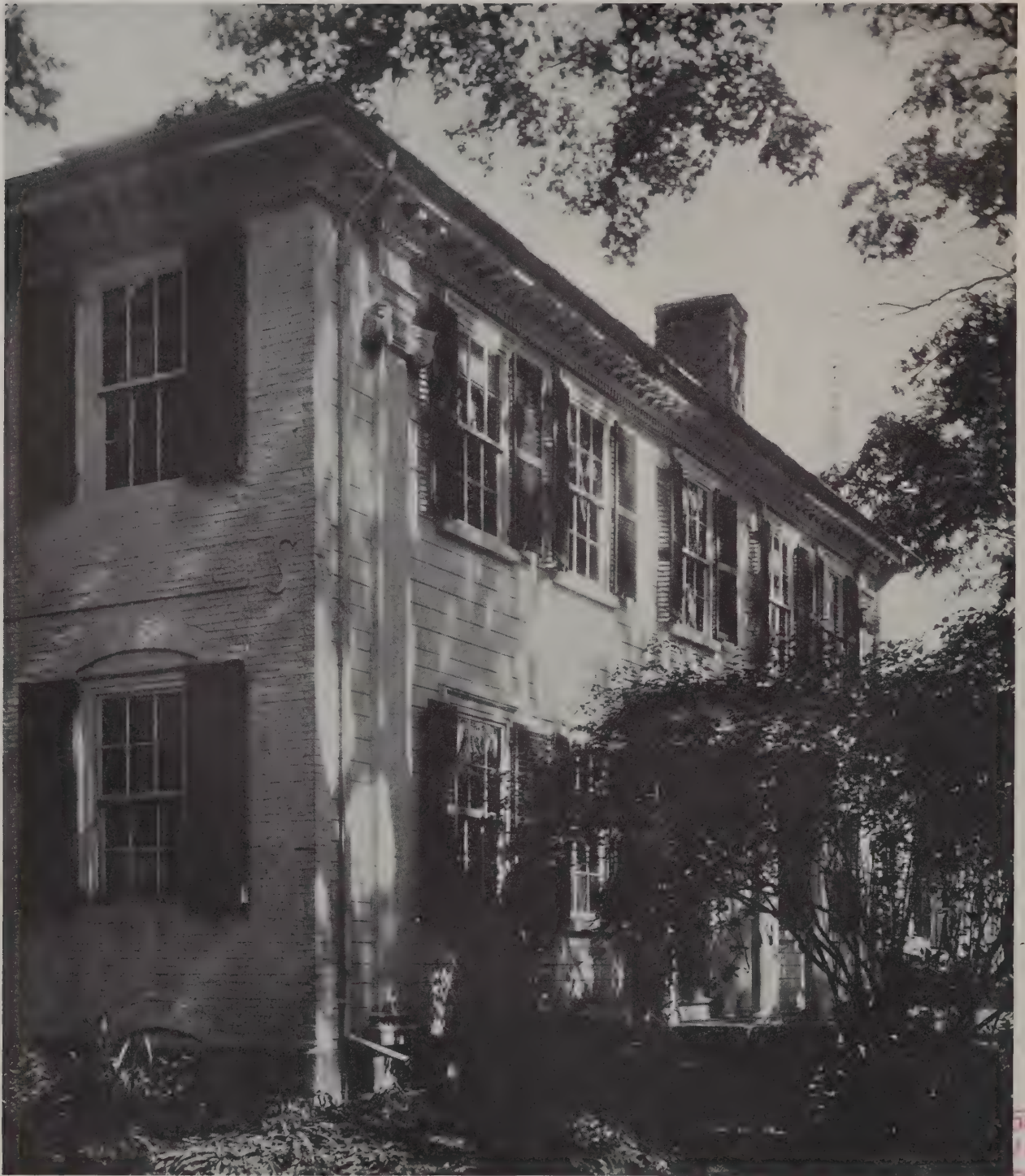


Entrance Detail, Governor Smith House



Governor Smith House, Wiscasset, Me.  
Built about 1792 by Silas Lee





Front View, Governor Smith House, Wiscasset

of Palladian details, whereas the dentil moulding below the console brackets all around the room in the Smith house shows the influence of the fine scaled Adam details that appear in the later Pain publications and in Benjamin. Adam, too, is the mantel treatment. End blocks and sunken panels belong to the innovations as introduced by Bulfinch and McIntire and codified by Asher Benjamin in his builders' guides. The general architectural treatment of the living room, however, recalls the pre-Revolutionary period, since fireplace and window recesses at

either side are framed with an order as in the Royall house at Medford, built before 1738, and in the Jeremiah Lee house at Marblehead, dated 1768.

The stairways and balusters are distinctly in the old style that held throughout the colonies after appearing in the Hancock house in Boston, dated 1737. In houses showing incoming Adam tendencies, as here, one would expect curving stairways and plain balusters, but these are later survivals of the much older turned balusters and spiral newels.

The Carleton house, across the street from the





Entrance, The Carleton House, Built about 1804 by Joseph Tinker Wood

Smith house, owes its Victorian character to alterations made about 65 years ago. The house was erected, however, soon after the purchase of the site in 1804 by Joseph Tinker Wood, who sold the house in 1807 to Moses Carleton, Jr. (one of the wealthiest shippers in town) for a cargo of rum valued at \$12,000. Mr. Wood employed as his builder a man who built a similar house in Damariscotta, across the river, and by comparing the other house (which has never been altered) with the Carleton house, I am able to point out what I think were the original fea-

tures,—the colossal pilasters at the corners of the facade, the cornice, with its Adam detail, and the central projection with the doorway and Palladian window above, these not altered in later building.

The Tucker house as built by Silas Lee around 1808 had a pedimented front with round wings at either side, flush with the facade. It was said to have been copied from an old house in Dunbar, Scotland, by the Scotch architect employed by Judge Lee. I doubt if the Dunbar house could have been older than 1750, for both the round projecting bays





Mantel, Governor Smith House

and the pedimented front were new features in England then. The present Tucker house, as altered around 1860, shows an arcaded lower piazza with a Victorian form of supporting pilaster above. The history of this addition makes an interesting story. It seems that Captain Tucker, the father of the present owner, had spent much time in Charleston, S. C., where he was a ship chandler, and had admired the open piazzas of such houses as the Ravenel residence there. (See p. 182 of "The Colonial House" by J. E. Chandler.) Like many other independent-minded travelers, he wanted to incorporate what he had seen in his own home. So he had this project-

ing piazza built on in front and the roof changed to extend over all, but for his model he used the state capitol at Augusta, which was designed by Bulfinch and finished in 1832. The severity of the winter gales off the bay below the house made it necessary to enclose the open galleries soon after they were built, and that accounts for their present form. Inside there is a beautiful flying stairway, built on an ellipse. This too is said to have been copied from the Dunbar house and, if so, is another indication that the Scotch model was not of much earlier erection than this Maine copy. An American parallel is the stairway of the Nathaniel Russell house at Charleston, S. C., built in 1811 (See p. 151 Smith).

The Sortwell house has a fairly romantic past. I quote Mr. Patterson for the facts: "Construction began about 1807-8. It was probably occupied by the first owner, Captain William Nickels, a retired master mariner, as early as the latter year. Captain Nickels suffered reverses of fortune during the distress brought on all merchants and shipowners from Maine to Georgia by the non-intercourse act, the embargo, and the War of 1812. He died in 1815. The house passed to the ownership of a close friend, and a few years after the death of Captain Nickels it was converted into a tavern and continued to be used as a public house until 1899, when it was purchased and occupied by the late Hon. Alvin F. Sortwell, whose family now occupies it during the summer months, a use for which it is eminently well fitted."

The facade combines a number of features, any one of which might have sufficed for Bulfinch and McIntire, who were seeking abstract classical balance of form and the purification of classic motifs as derived from Adam. Thus in Bulfinch's design



Upper Stairway, Sortwell House



Stair Hall, Sortwell House



for a city house after 1796 (See Fig. 172 in Kimball) the central features of door, Palladian window and half-round window in the third story are enough. In the Barrel house (See Fig. 184 in Kimball) Bulfinch introduced to New England the arcaded treatment of first story windows supporting an order, after the manner of the fine English country houses designed by James Pain. McIntire's Salem houses show many variations of porticos as the main enrichment of his facades. But in the Sortwell house, as in the Craft house in Roxbury (built in 1805), we see a combination of all these features with pleasing emphasis on the central axis through a slight projection that shows in the illustration, not far from the upper right hand corner, by a break in the cornice.

It is the academic treatment of the central element which reveals the progressiveness of the local builders. Boston had known blind arcades supporting pilasters only since the completion of the Barrel house in 1792, and Portland houses do not show like treatment before 1805, under the influence of Alexander Parris, a follower of Bulfinch. So Wiscasset at this time was in the vanguard of Maine architectural leadership. If a fire along the wharves had not destroyed what is said to have been an earlier prototype of the Sortwell house, we should, perhaps, have further proof of this interesting, little known fact.

In contrast to the unified architectural scheme of the facade, there is no conformity evident in the decorative details. Against plain matched boarding are patterned in an exuberant spirit diverse motifs,—Greek rosettes on the eaves cornice, Gothic balustrading on the portico, a free adaptation of classic grooving on the pilasters, and what may be a purely



Sortwell House, Wiscasset  
Built about 1807-1808

American type of fanciful mouldings. Happily, the builder's nice sense of scale and space relations holds them all together. The wooden fence is a recent addition. An older photograph shows the iron fence with the more delicate sheaf design in accord with the many classical details of the carving. Many fine houses of the period of the early republic are marred by fences that belong to the heavier Colonial style. The story goes that dollar bills pasted over the front of the house would not have paid for the woodwork. A professional architect might not have allowed this free indulgence of the carver's skill. The mouldings



Facade Detail, Sortwell House



Entrance, Sortwell House



in particular are most ingenious. We have everything, it seems, from the miniature Adam festoons, gauged in the moulding over the frieze of the portico, to the split dentils in the architrave of the third story central window, which give the effect of Greek fretting. There is fine herring-bone reeding in the sunken panels of the door pilasters, and the interlacing circles of the lintel suggest a design for a balustrade in Asher Benjamin's "New System of Architecture" of 1806. (See Plate 32.) The elliptical fanlight, which was never seen before the Revolution, has here a familiar design for the leads, perhaps taken from the same book. (Also Plate 32.) As compared with Salem houses of about this period, the Sortwell fanlight betrays a kinship to the earlier half-rounded form, and less abandonment to the flattened proportions of the Salem work. (See volume on McIntire by Cousins and Riley.)

Inside the Sortwell house it is the hall and stairway which demand special attention. Built in the oval shape favored by Bulfinch, the hall allows the stairs to ascend in a curving course about an elliptical well capped by a projecting skylight. Such stairs in Pain's plans of English country houses, are described as "best stairs." Detail of the arch over the first step shows the half-round columns supporting an arch with delicately paneled soffit with a beaded edge, repeated on the string of the staircase. At either side of the stairs are the square living and dining rooms. The doors have refined architraves, and dignified half-round pillars supporting a frieze and cornice much in the manner of McIntire's work. The door paneling, as well as the paneling of the arch soffit over the stairs, would serve to date the house as belonging to the period of Adam influence, derived through Asher Benjamin, even if there were no other indications.

People like to think that there is some connection between rope moulding and the nautical experiences of the owners of seaport houses in which it is often employed. One of the doors inside the Sortwell house shows an effective use of it. We find this "cabling," as Pain calls it, illustrated in his many London publications from 1758 on, and it was incorporated in the American editions as well as in Benjamin's books for provincial builders. It was not therefore peculiar to seaport towns or ships'

carpenters, however skillful and ingenious they were in using it, and there are many instances of such use.

The newest of the buildings in this group is the brick court house erected in 1824 on the village green to replace the wooden structure mentioned in the Rev. Alden Bradford's description of Wiscasset in 1801. Although removed in its extreme simplicity from the public buildings of Bulfinch, it represents

a common type derived from his work and reveals marked beauty of balance and proportions.

There are a number of other houses in Wiscasset somewhat similar to those shown here. To visit the town is to gain a fresh impression of what a community can be when permeated by a fine spirit of citizenship seeking creative expression in its architecture. On the whole, Wiscasset preserves buildings representing several phases of classic influence which prevailed before the era of the Greek revival. In particular, the Smith house, the Tucker house, and the Sortwell house show an "awareness" of advanced contemporary styles unusual in a town situated at "this great

distance from the center of the Union" We have seen that they owe as much to Bulfinch, perhaps, as to any one American designer, but that does not belie their noticeably outstanding quality—individuality.

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Stair Hall, Governor Smith House

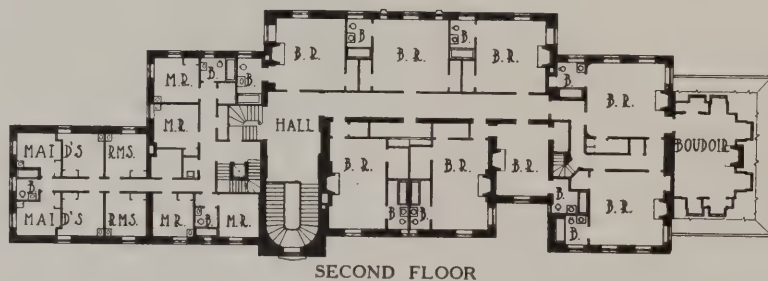




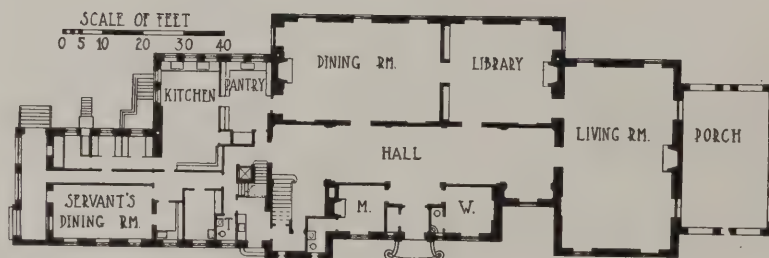
Plans on Back

HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT

Photos, John Wallace Gillies



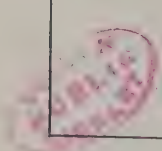
SECOND FLOOR



FIRST FLOOR

PLANS, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.

JOHN RUSSELL POPE, ARCHITECT

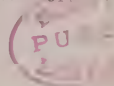


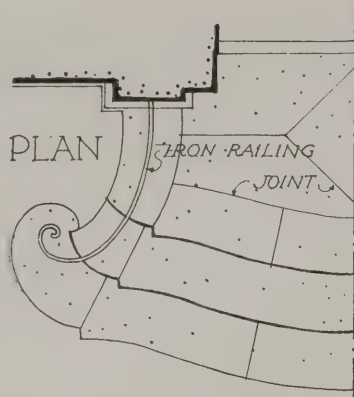




MAIN ENTRANCE, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT

*Measured Drawing on Back*



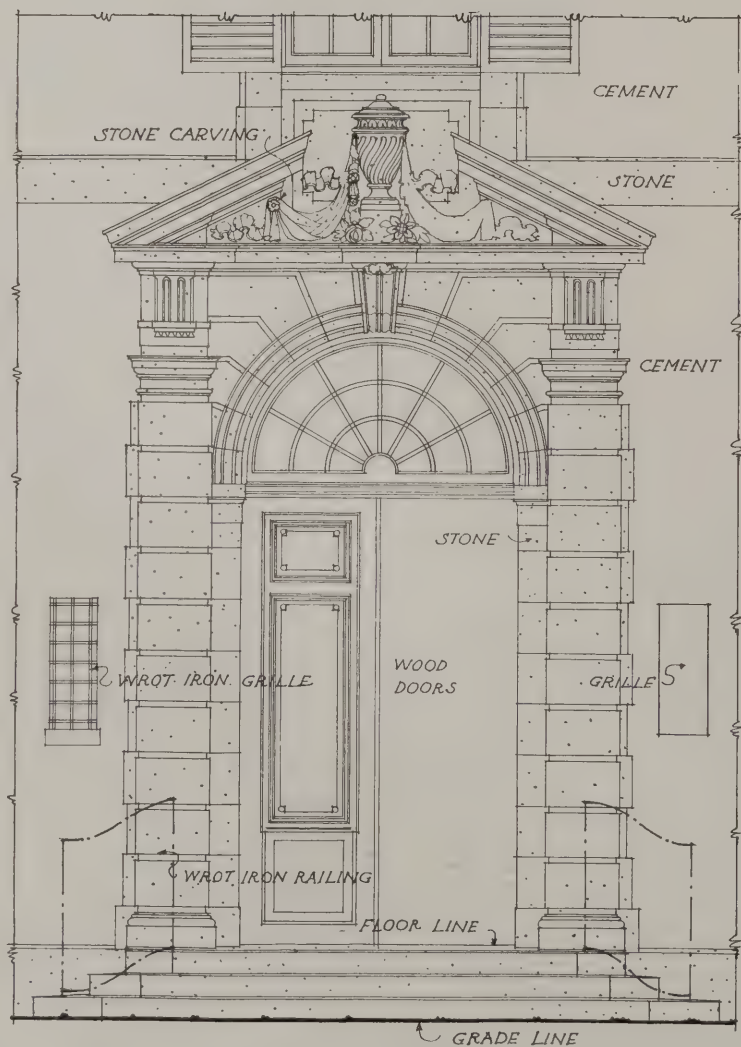
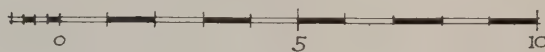


# ENTRANCE DETAIL

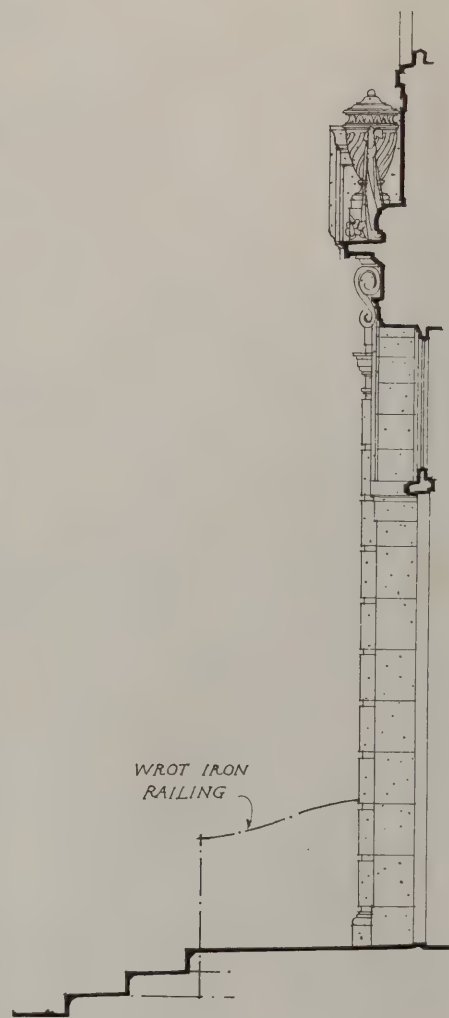
JOHN RUSSELL POPE, ARCHITECT

NEW YORK CITY

SCALE IN FEET



ELEVATION



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## The ARCHITECTURAL FORUM DETAILS





THE VERANDA, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT

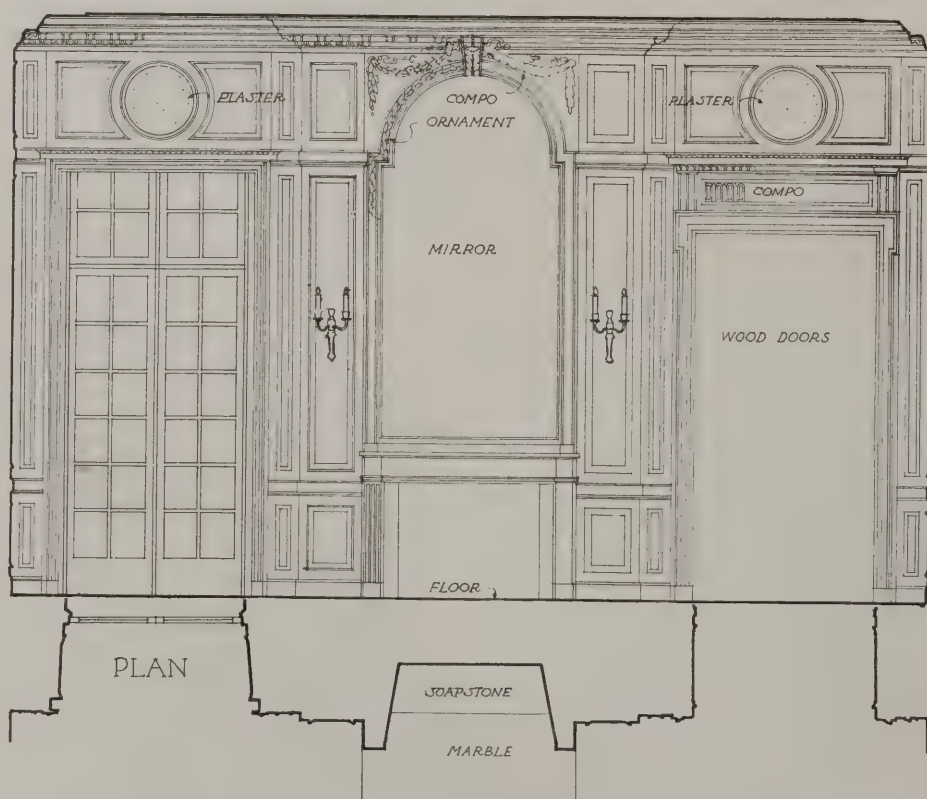
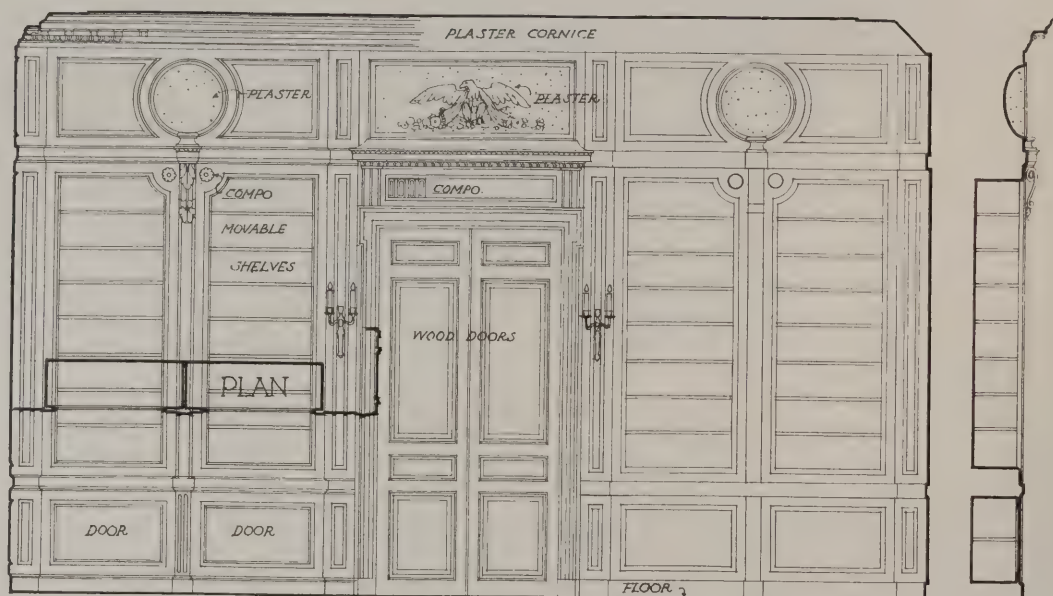




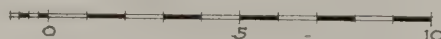


*Measured Drawing on Back*

LIBRARY, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
JOHN RUSSELL POPE, ARCHITECT



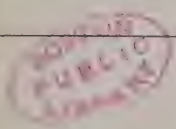
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The ARCHITECTURAL FORUM DETAILS







DINING ROOM, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
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LIVING ROOM, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.

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DOORWAY IN DINING ROOM, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.

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HALL, HOUSE OF MOSES TAYLOR, ESQ., PORTSMOUTH, R. I.  
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# Shady Side Academy, Alleghany County, Pa.

E. P. MELLON, Architect

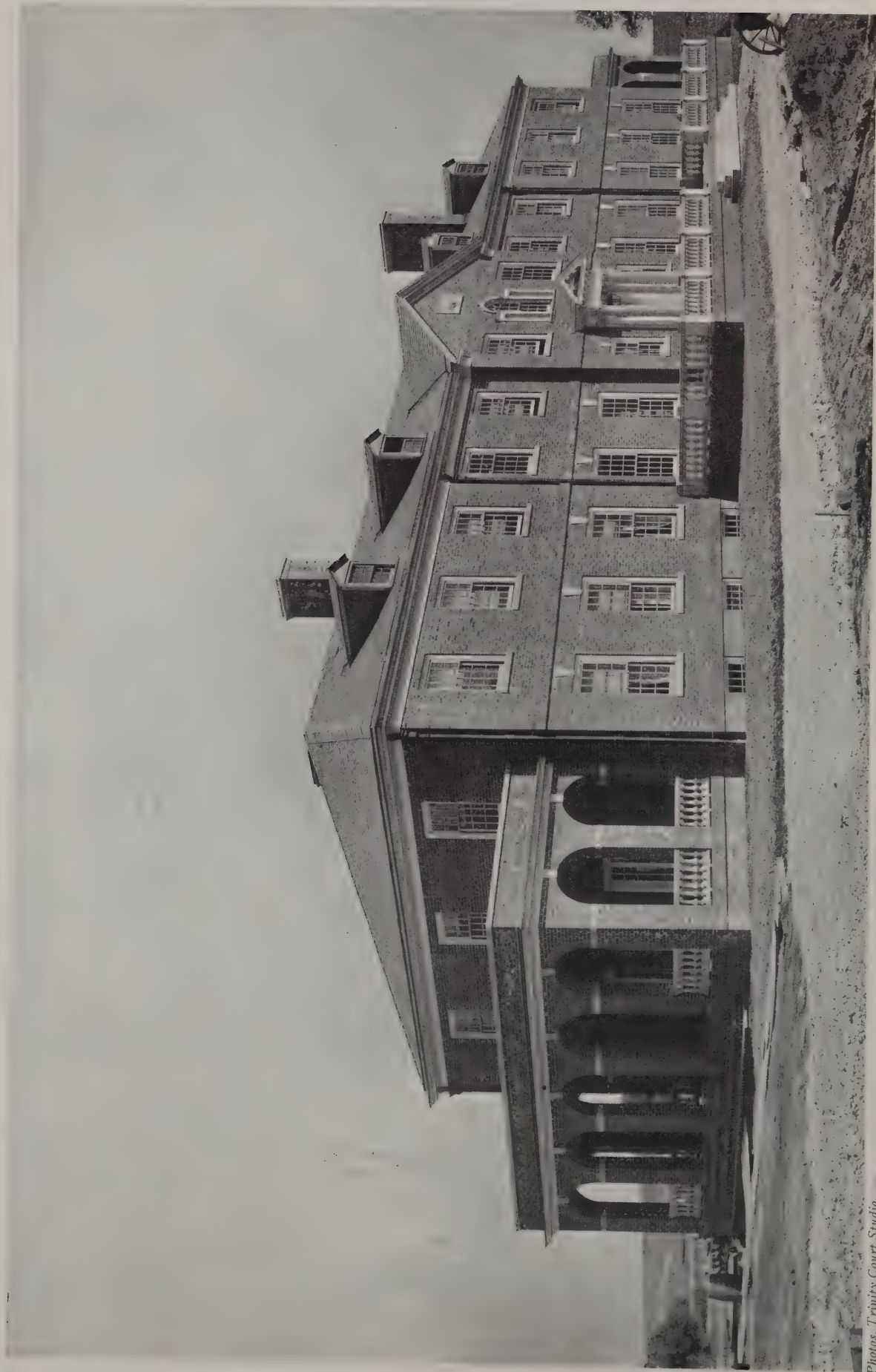
**D**URING the last few years, as population in America has increased and wealth has been more evenly distributed, more and more parents have found it possible to send their sons to preparatory schools. This has necessitated throughout the country a gradual increase in the number of schools being created, and an enlargement of those already existing. The centers of our population have become more numerous, and along with this growth there has come also a great increase in these centers of the number of amusements and other distractions for the modern youth. Therefore, it has been found advantageous to establish new preparatory schools and country day schools in rural localities located conveniently to cities. As this tendency has been rapidly growing and the problem successfully met, the older established preparatory schools have been and are gradually adopting this idea and establishing themselves in the country, where youth has no distractions, excepting those activities, mental

and physical, which are directly connected with the schools. This is now being done by many institutions.

In adopting the modern idea of a country school, and in the establishing of new buildings, etc., a great many new problems have arisen which have required for their solution the close study of both the architects and those directly responsible for the schools. Some of these problems have to do with matters of adequate and easy transportation to and from the city; the availability of sufficient water and fuel supplies; the housing and boarding of instructors and students; and the establishing and keeping of a complete domestic unit. It can be readily seen, of course, that the advantages of the country for the mental and physical development of the youth are very great. The possibilities in the way of athletic activities are unlimited, and his mind is thereby made much more adaptable and receptive. It has been proved that the mind as well as the body of a country school trained youth is very much healthier than



Entrance Gateway, Shady Side Academy



ONE OF THE DORMITORIES, SHADY SIDE ACADEMY, ALLEGHANY CO., PA.

E. P. MELLON, ARCHITECT

Photos. Trinity Court Studio

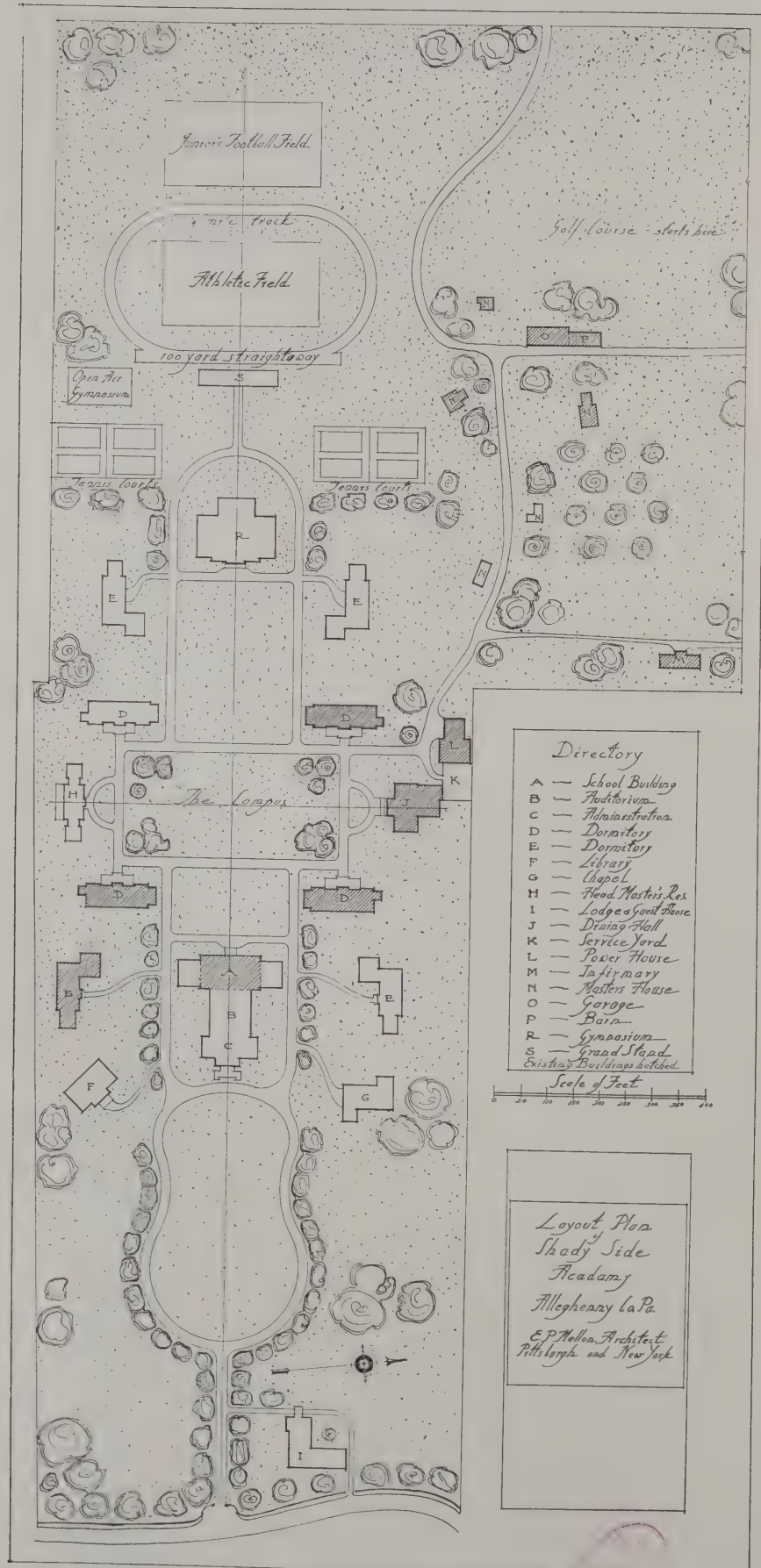






MAIN SCHOOL BUILDING, SHADY SIDE ACADEMY, ALLEGHANY CO., PA.  
E. P. MELLON, ARCHITECT

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Layout, Shady Side Academy

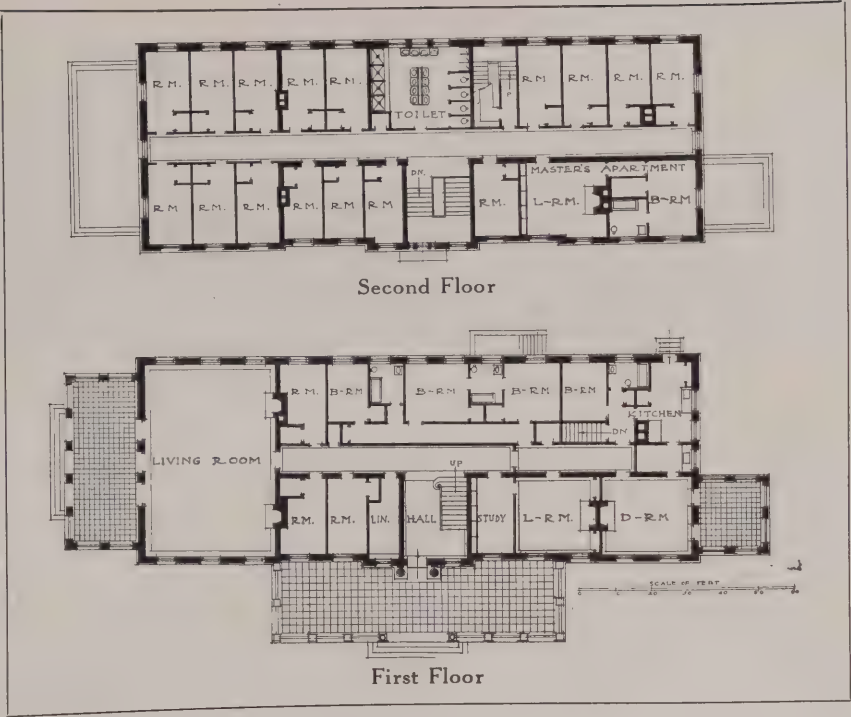
that of the youth whose schooling has been had in a city atmosphere, with its distractions.

There are a few of the older established preparatory schools in America which were wise enough in the beginning to appreciate the advantages offered by the country and which established themselves in the country originally. These schools have grown enormously, and it has been found necessary to rapidly add building after building to accommodate the growing demand for the housing of students. Shady Side Academy is among the widely known and old established preparatory schools in this country. It was founded in 1885, in what was then practically the outskirts of Pittsburgh. As in many other instances, the city gradually grew until the site of Shady Side Academy became a city lot surrounded by paved streets, and classes were continually interrupted with the noise of motors and surface cars. In 1921 it was found that if Shady Side Academy was to hold its own among the prominent preparatory schools of the country, it would be necessary to follow the trend of modern development and move it to the country. After a time an appropriate site was found within five miles of the residential district of Pittsburgh, a site which is perhaps unequalled in America for the establishing and erecting of a country school for boys. The acquiring of the property was made possible through the generosity of Mr. and Mrs. Wallace H. Rowe. The trustees very wisely decided that nothing should be done toward the development of this property until the architect had developed a complete plan for the future working out of the entire scheme. This involved a close study for deciding upon the best site for the campus and for the situations of the different buildings in their relation to their accessibility to the campus and to each other, as well as for the

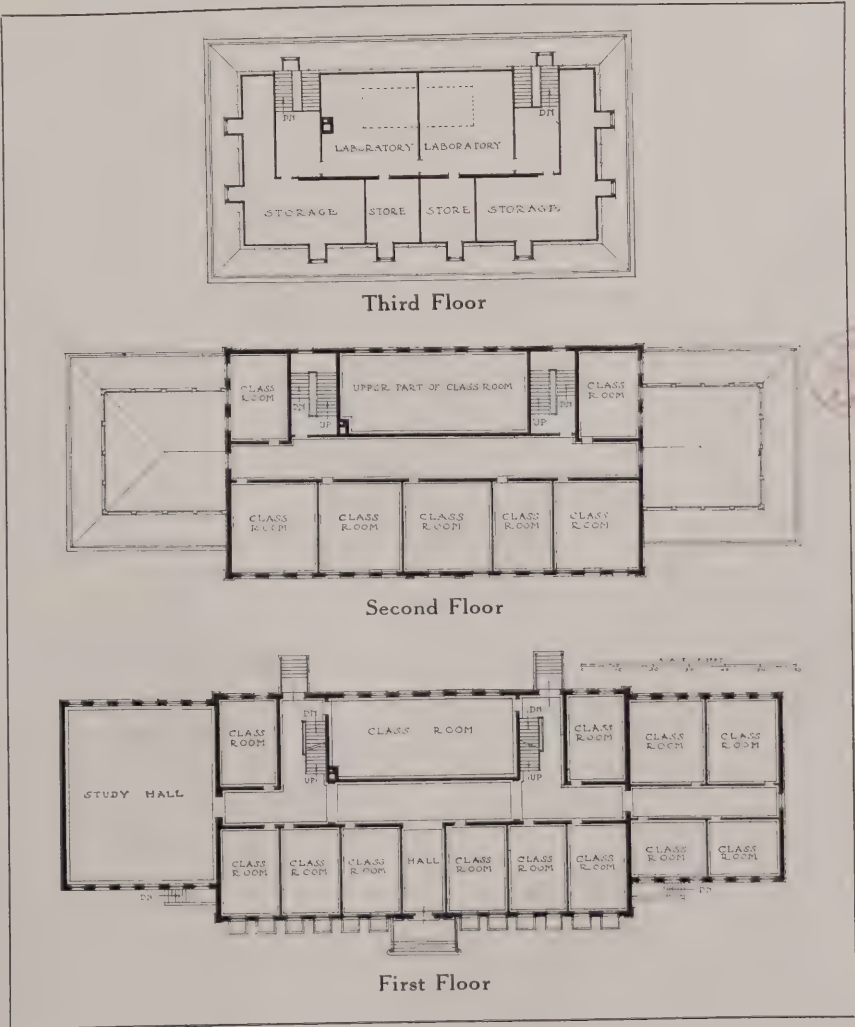


convenient and logical location for athletic fields, etc. It was also necessary to make a complete study for the future development of the landscape architecture of the entire site and for the planning of each building to be built for the establishment of the school and for those which were to follow later. There are only a few instances where an entire school has been developed in this manner, and in conceiving such a development in its entirety for the future there are assured safeguards that errors will not be made in requirements and in future development of the activities of the school, and assurances also of protection (which unfortunately has not been given some schools) against the designing and erection from time to time of buildings of different styles of architecture, having no relation to other established buildings and thereby creating as a whole a collection of disunited and architecturally discordant units on the campus.

One of the requirements insisted upon in this instance by both the architect and the trustees was that all buildings erected should be absolutely fireproof. The initial cost of fireproof structures is greater than that of buildings of inflammable materials, but by having only fireproof structures, not only are the costs of insurance and upkeep kept at a minimum but protection of life is assured, and it has been proved that the confidence reposed by parents in a school which provides only fireproof buildings is enormous. Since the erecting of these particular buildings, the applications for accommodations for students which have been received have increased at such a rate that it keeps the trustees and faculty occupied with the problems of preparing for the erection of new buildings and of providing additional accommodations. This has been so marked that during the first year of its establishment in its



Plans, Dormitory, Shady Side Academy



Plans, Main School Building, Shady Side Academy



A General View of the Campus, Shady Side Academy

home in the country Shady Side Academy was more than able to meet its budget for operating expenses.

There have been already erected the general recitation building (minus two very necessary wings, which are expected to be erected within the immediate future) and four complete dormitory structures, one of which is used as a temporary gymnasium.

Besides plans for the contemplated erection of the two wings of the main school building and of additional dormitory buildings, there have been made complete plans for a head master's house, a gymnasium building, an administration building, an auditorium, a

chapel and a library building. One of the noteworthy features which has been completed is the Thomas A. Mellon Memorial Gateway, which is placed at the entrance to the main driveway. This gateway is designed in the same general style as that employed in all of the buildings, which is a type of Colonial architecture, typical of that which was used in the early colonial work in the state of Pennsylvania. The whole effect is of simplicity, of dignity and of good taste. Buildings and landscaping together give a feeling of perfect harmony and suggest the traditions of some of the old country schools in England.



Perspective of a Dormitory, Shady Side Academy



# Alumni Memorial Building

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.

RITCHIE, PARSONS & TAYLOR, Architects

THE Commonwealth of Massachusetts deeded to the Massachusetts Agricultural College Alumni Association the ground for the erection of a memorial building to be dedicated to those members of the college who made the supreme sacrifice during the World War. The Alumni Association raised \$100,000 to meet the cost of the construction of the building, and later the Association raised \$27,000 additional which was used to purchase furnishings and equipment. After the memorial was completed and equipped dedication exercises were held, and the Alumni Association then deeded back to the Commonwealth of Massachusetts the ground and building, and the state maintains the entire property, together with all the other buildings of the Massachusetts Agricultural College, at Amherst.

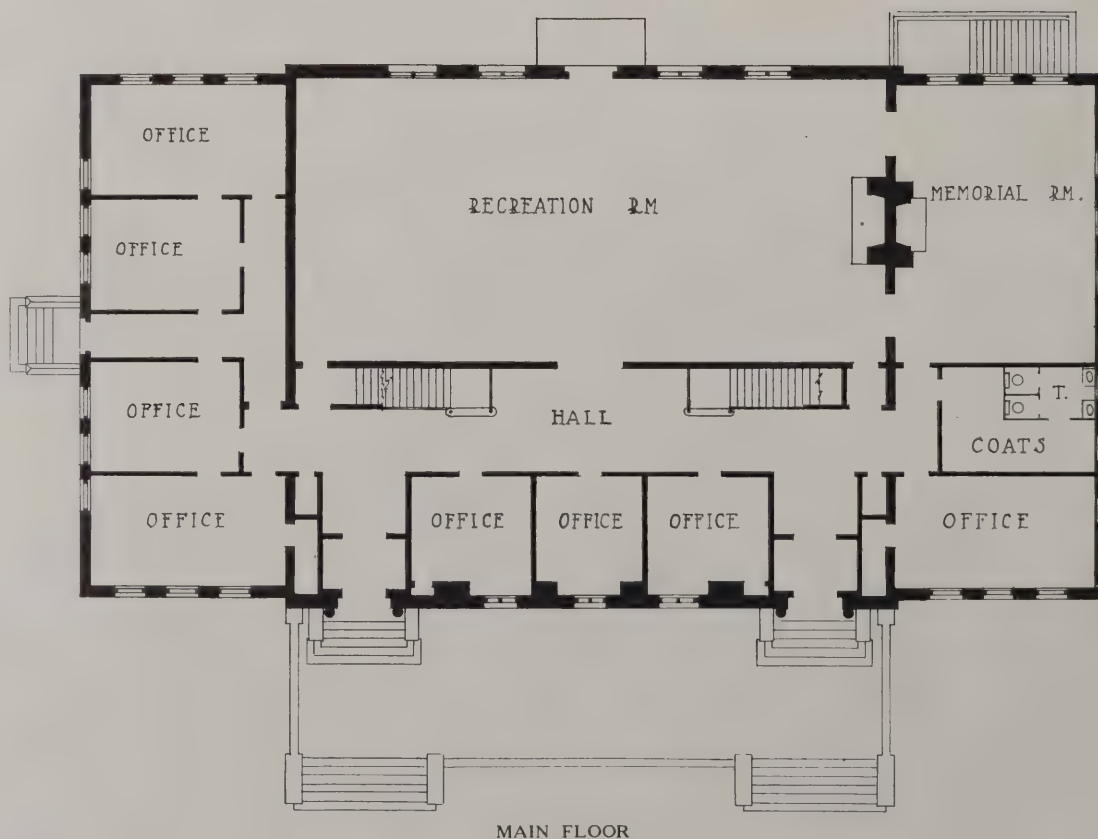
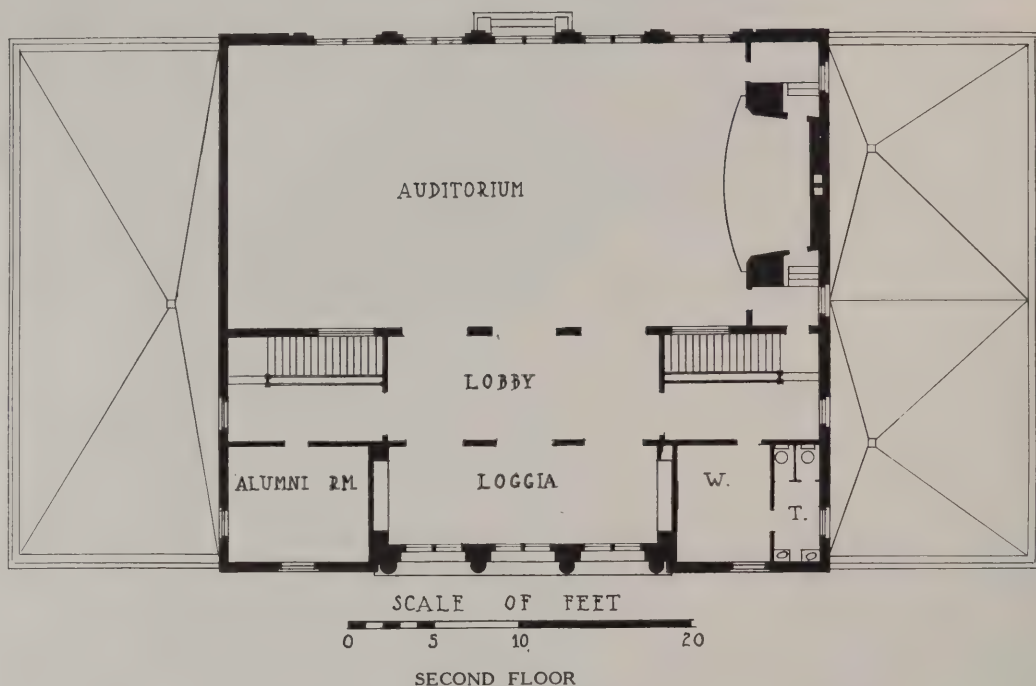
The memorial is built on an acre of land located south of the Stone Chapel and facing on Lincoln Avenue and Olmsted Road. This is an excellent site, sloping down to the pond and contiguous to the Alumni Athletic Field, future dormitories and gymnasium. The principal front and main entrance to the memorial are on the Olmsted Road side of the building. In addition to these there are entrances on the Lincoln Avenue side and at the south end of the structure. The building is designed in the Classic style, with rough textured end cut brick and marble trimmings. This treatment brings the structure into harmony with the other buildings on the campus, at the same time aiding in securing a monumental de-

sign which differentiates it from the buildings which are used for instruction. The dominating motif of the easterly facade is the loggia in the second story. This loggia is enclosed with large French windows, and it is often used as a retiring room in connection with the auditorium. This loggia treatment is recalled on the Lincoln Avenue side by the arched windows in the auditorium. The billiard and recreation rooms are placed on the Lincoln Avenue side of the first floor, and they are entered also from the corridor.

The memorial hall is in the northwest corner of the building, opening into the recreation room as well as from the corridor. In this room is a special memorial fireplace commemorating the service of the men of the college in the World War. The offices on this floor are for the use of various student organizations. In the basement provision is made for bowling alleys, toilet room, barber shop, and a store. In the latter space is allotted to a post office for students' mail. There is a separate entrance from the outside in addition to that from the first floor. The greater portion of the second floor is given over to the auditorium, which has a seating capacity of about 400. This auditorium is reached by two stairways of generous width and easy rise. Near the middle the corridor is enlarged, giving an area which becomes a part of the large room when it is used for social gatherings. This space also affords connection with the loggia. On this floor is a retiring room for women and a room set aside for use of the alumni.



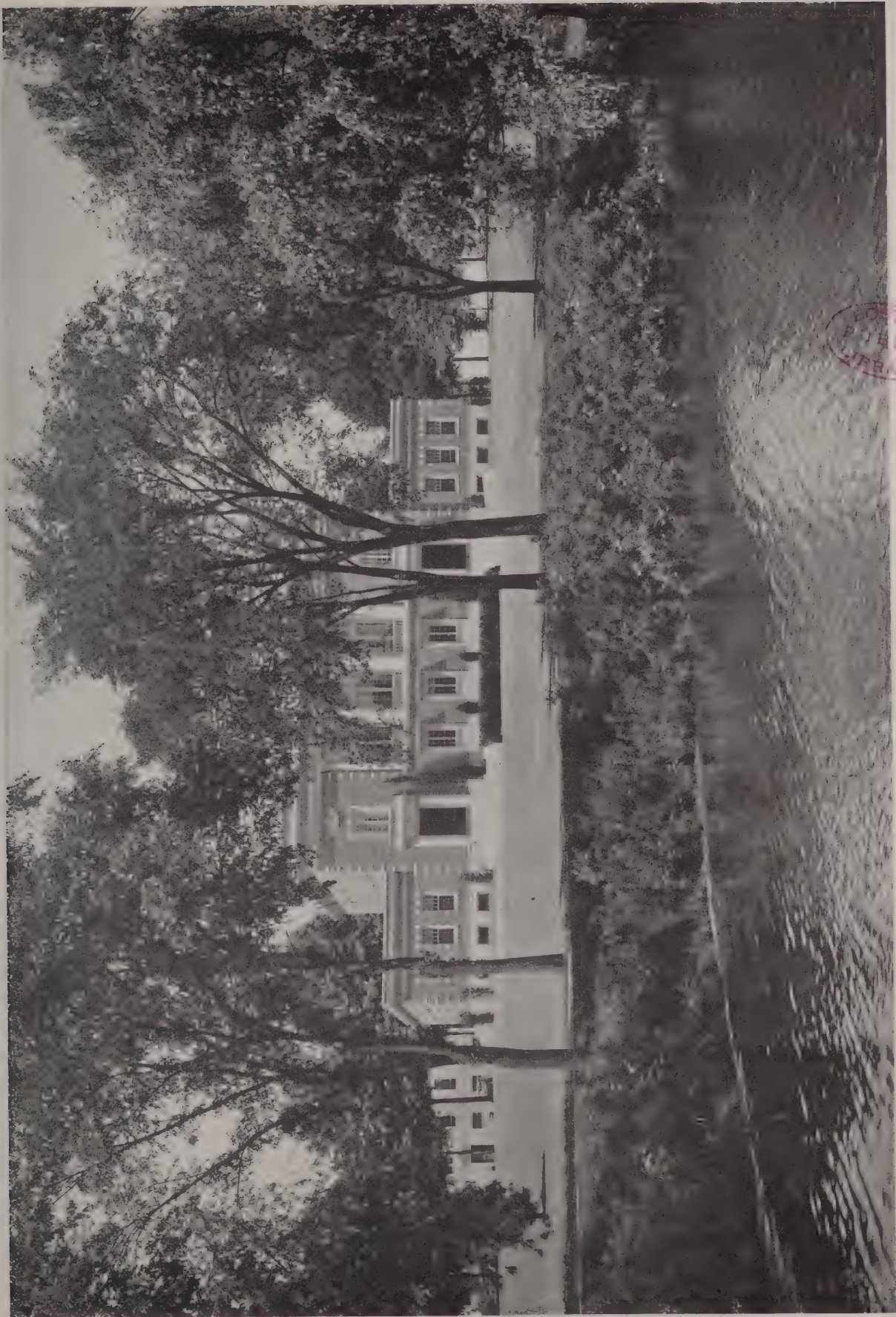
Alumni Memorial Building, Massachusetts Agricultural College



PLANS, ALUMNI MEMORIAL BUILDING, MASSACHUSETTS AGRICULTURAL COLLEGE  
AMHERST, MASS.

RITCHIE, PARSONS & TAYLOR, ARCHITECTS





GENERAL VIEW, ALUMNI MEMORIAL BUILDING  
MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.





VIEW TOWARD THE STAGE



DETAILS, THE AUDITORIUM, ALUMNI MEMORIAL BUILDING  
 MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.  
 RITCHIE, PARSONS & TAYLOR, ARCHITECTS



# THE BUILDING SITUATION

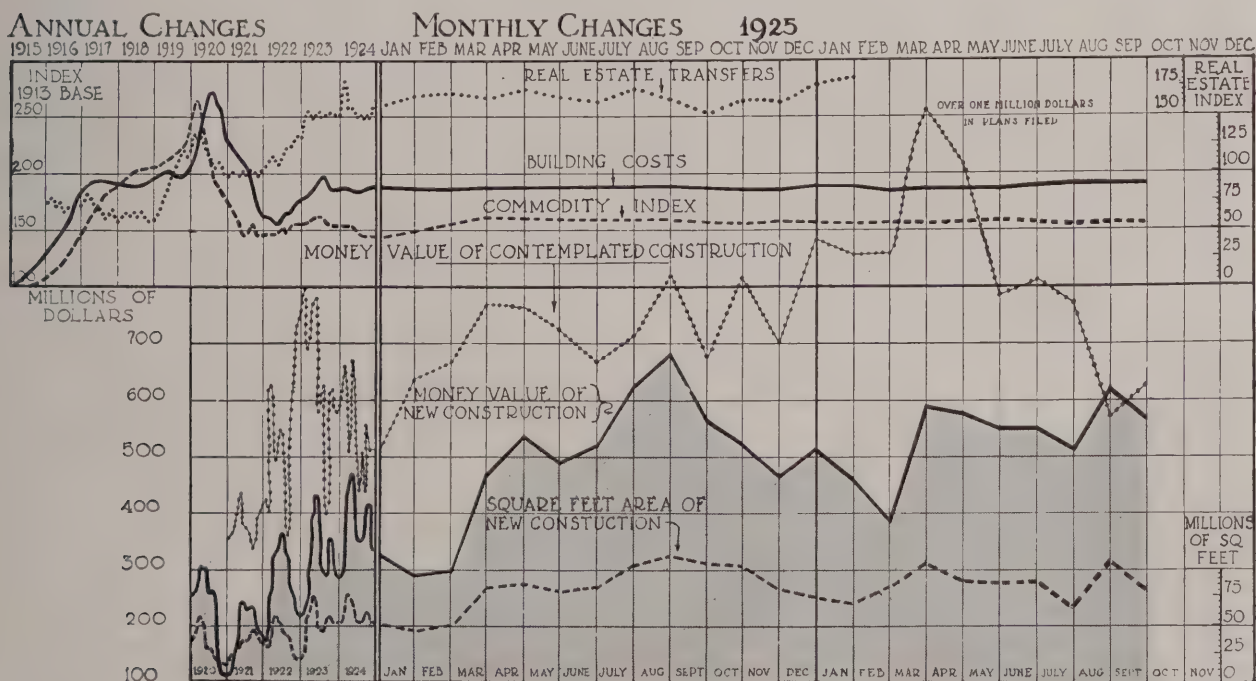
## A MONTHLY REVIEW OF COSTS AND CONDITIONS

THE fall building season has begun in a logical manner, showing somewhat less activity than during the same period last year, but nevertheless maintaining a volume of contemplated and actual new construction work which promises to finish up the year 1926 with a higher record than any previous year. The figures published by the F. W. Dodge Corporation for 37 states east of the Rocky Mountains indicate a total value of new construction contracts amounting to \$562,371,400 for the month of September. This amount represents a decrease from last September of less than 1 per cent. Contemplated new work, as represented by plans filed, was not as great in volume this September as in the same month of 1925. The total of these projects was approximately 9 per cent less, indicating an easing off of demand for new buildings, and strengthening the grounds for forecasting the close approach of that period in the building construction field when we shall gradually return to a normal of probably four billion dollars a year.

Conditions warrant the statement that this return will be very gradual, as it should be if the correct

economic balance is to be maintained in the construction industry and in the general commercial situation of the United States. It is believed that this line of gradual return will drop lower during a period of five years, with some flurries back to abnormal activity, but probably without record-breaking periods of immense proportions such as we have seen during the past four years. More and more it becomes evident that we have entered the period when new construction activity is not based on the need for additional building space but is an indication of the improved standards of living and of housing, coupled with the ability of individuals and corporations to pay for better buildings, either through relatively high rentals or by the investment of surplus funds to secure the size and type of structural space desired.

It is obvious that sooner or later new building in every class will be subject to the first stages of rental competition, when it will no longer be a question of space at any price; then will be the time that good architecture and good planning will come into their own as recognized factors in the commercial success of buildings of all the types now being constructed.



THESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs*. This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index*. Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction*. Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record*. (4) *Money Value of New Construction*. Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction*. The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.



AMERICAN TELEPHONE & TELEGRAPH BUILDING, NEW YORK  
WELLES BOSWORTH, ARCHITECT



# ENGINEERING DEPARTMENT

## Shifting of Structural Columns

By ARTHUR T. NORTH

**P**LANNING additions to structures already existing often presents problems of interest and importance to architects and engineers. Particularly is this the case when the building in question is a large structure and when the additions involve the remodeling of a great hall or lobby in which, unless architectural symmetry is to be completely sacrificed, considerable change in the placing of supporting walls or bearing columns must be made.

The owners of the American Telephone & Telegraph Building, located at Broadway and Dey Street, New York, were justly proud of their ground floor lobby, which occupied the entire frontage of the building, with a depth of about 70 feet and containing nine free-standing columns. When the adjoining property was acquired on which to extend the building to Fulton Street, it was decided to extend the lobby also. Had the existing columns in the old north wall been utilized as lobby columns after the wall was removed, the spacing would have been unsymmetrical and architecturally impossible. It was decided to space the columns correctly, and in order to do so the center line of the old north wall columns was moved about 8 feet, 6 inches in a northerly direction, a most difficult undertaking. These columns supported 24 stories above the lobby ceiling,

with a maximum load of about 3,000,000 pounds. The problem was to pick up these columns at the lobby ceiling level and to transfer their tremendous loads to the new columns whose center line was more than 3 feet distant; this task was accomplished.

The ground floor lobby of this building is a room of magnificent proportions, about 66 by 133 feet in size, with a height of 35 feet. The 25 free-standing marble columns are 5 feet in diameter and spaced about 17 feet on centers. The vista in this great Doric hall in whatever direction is impressive, and the most inspiring emotions are aroused. The cool, low tones of the marbles, the skilled craftsmanship displayed in the forming of the great columns, and the utmost simplicity in form and proportions create rare beauty and dignity,—all helping to make a room of real grandeur. Thus some of the most valuable floor area in America is given over to art and beauty.

How to pick up the three north wall columns and transfer the loads to new columns was a problem that engaged the most earnest attention of the architect, engineers, steel contractors and builders. Many schemes were proposed and abandoned, until it was decided to support the loads on cantilever trusses, balanced by loads developed in the new structure. This meant the picking up of columns supporting 24

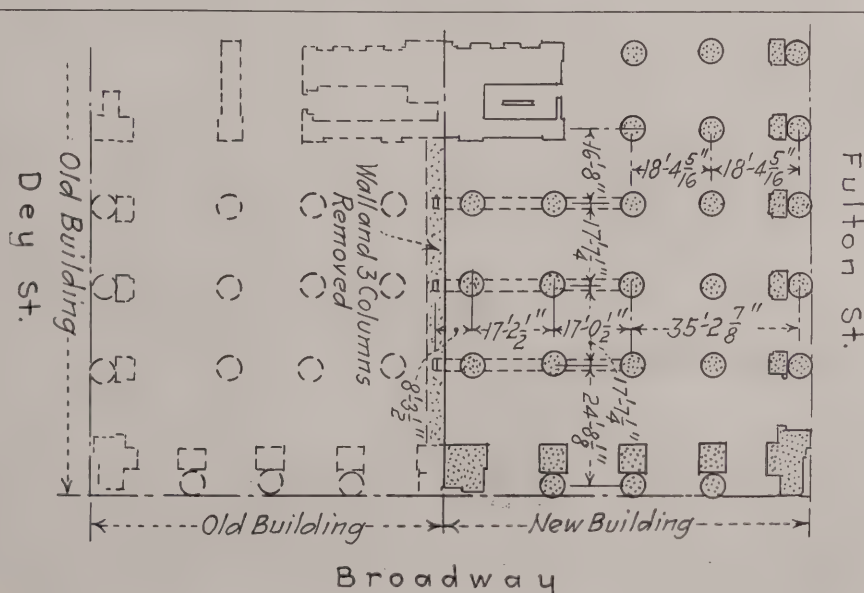
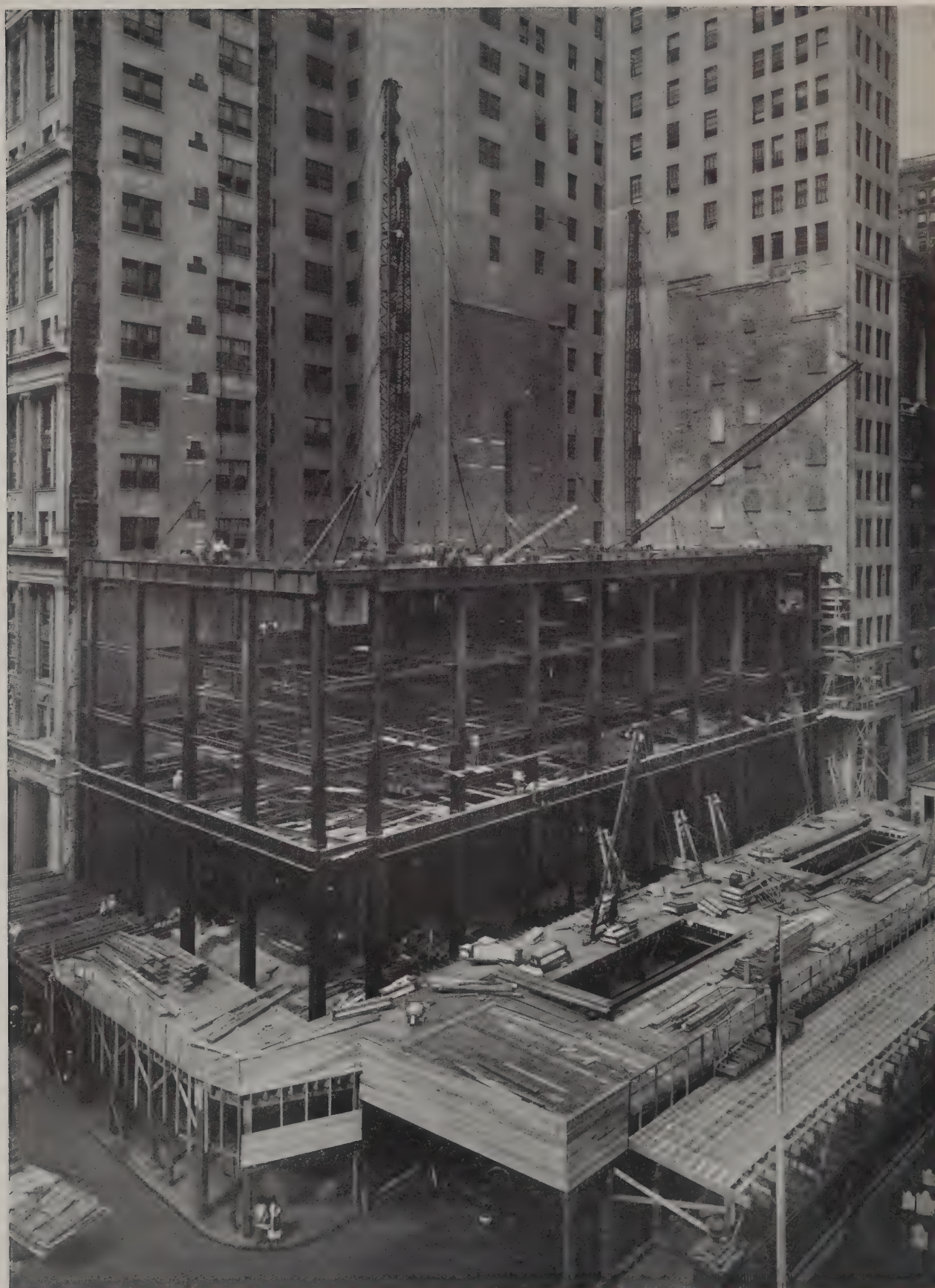
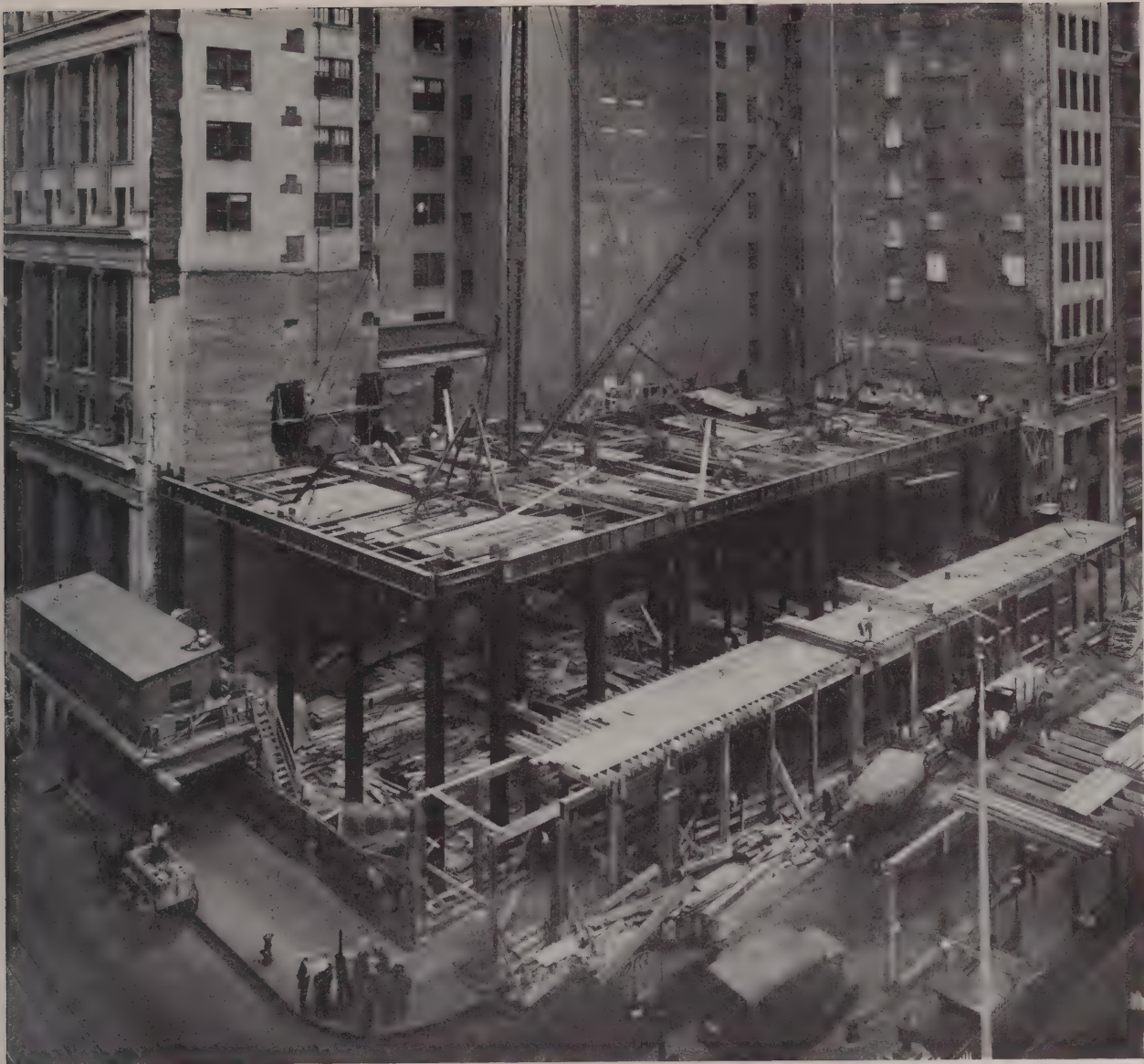


Diagram of Old and New Buildings at Third Floor Showing Location of Three Cantilever Trusses Used to Support Load Originally Carried by Columns of the Old Building

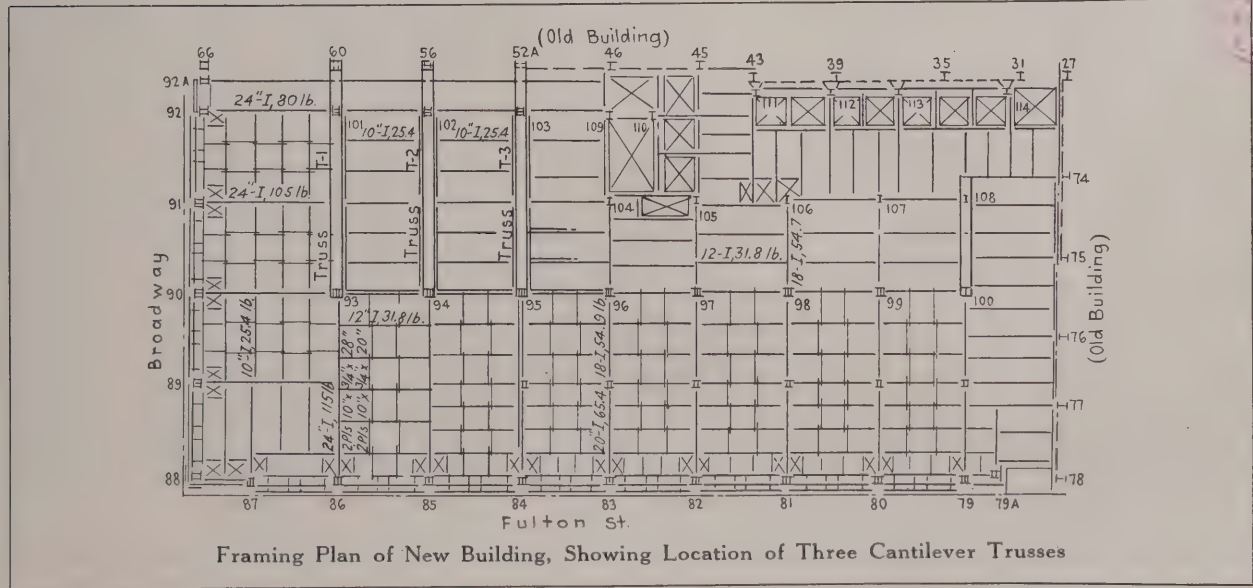


View During Construction, While Cantilever Trusses Were Being Inserted to Support 24-Story Load Originally Carried by Columns in Old Building





View Showing Holes in Old Wall Where Cantilever Trusses Were Inserted



Framing Plan of New Building, Showing Location of Three Cantilever Trusses



stories of an occupied building, transferring the loads to new columns, removing an existing wall, and not interfering with the occupancy of the structure,—surely a task that would challenge the talents of an engineer of the highest order. The structural supports were carried out in three trusses in the third story of the new building, having cantilever arms 8 feet, 6 inches long. The trusses extended back two bays, making the back arm 34 feet long. The lobby columns under the center of the trusses carry no load and are merely so placed to complete the symmetry of the plan. The column on top of the truss is located back of the fulcrum point a distance equal to the projection of the cantilever arm with an arm ratio of 1:1, and the anchor column at the end of the back arm has an arm ratio of 1:4 with the cantilever arm. The loads assumed were those accruing in the column schedule loads at the third floor, made up of the full dead load and a live load of 15 pounds per square foot on the supported floor area as a minimum. The loads varied in the three columns to be supported, the greatest being approximately 3,000,000 pounds. It is obvious that the transferring of such vast loads must be accomplished gradually by permitting the loads in the old columns to be supported on their original foundations, decreasing as the balancing loads were developed as the new structure progressed. When the effect of the weight of the new work supported on the back arm of the trusses was equal to or greater than the effect of the weight on the cantilever end of the trusses, with reference to the lever arms and the fulcrum, then the transfer was fully accomplished.

The old columns were first exposed in the third story of the north wall. The rivets that projected beyond the east and west faces of the columns were removed one at a time and replaced with countersunk flush-head rivets. Two 1¼-inch gusset plates were used at each column for the truss connection. These plates were shop-punched for the column connections only. After being placed in position the corresponding rivet holes in the columns were drilled and reamed and the riveting completed. The trusses were then assembled, supported by the fulcrum and the anchor columns. The connection rivet holes in the 1¼-inch gusset plates and in the connecting upper chord and web members were drilled and reamed in the field. It was apparent that the fulcrum point must be maintained at a constant elevation at all times. The increasing loads on the fulcrum columns would cause them to compress and shorten, and the decreasing loads on the lower portions of the old columns would cause them to lengthen. The constant elevation of the fulcrum point was maintained by using four hydraulic jacks placed at the bases of the columns between the grillage beams and wing brackets attached to the columns. The heavy permanent column bases were beveled, and two steel wedges were inserted in the joints and pushed into position by horizontal screw jacks as the columns were raised by the hydraulic jacks. The

pitch of the wedges was 1:16, and their insertion movement was the basis of an accurate measurement of the lifting done. The pressure gauge readings of the hydraulic jacks gave a measurement of the total load on the columns. An open joint of about 1½ inches was left in the anchor arm columns just below the third floor level. Connection plates were riveted to the lower portions only. During the erection of the trusses this open joint was filled with wedges. When the trusses were completely erected and riveted these wedges were withdrawn, leaving the back arms free. This would permit the load on the old columns, below the cantilever arm connection, to be relieved as the balancing of the loads progressed.

When the trusses were completed, the first floor splices in the old columns were cut free, which permitted the lifting of the columns without lifting the loads in the basements. Extensometer readings were made in these columns and in the various truss members to observe the deformations caused by the application of the loads. The open joints in the anchor columns were closed with permanent fillers and the connecting plates riveted to the upper section as soon as the load was out of the first story sections of the old columns. The first story sections of the old columns were not burned off and removed until an ample margin of balance was provided by a sufficient amount of new construction. When all was made secure and all deformation had ceased, the wedges under the fulcrum columns were fixed permanently in place and the jacks were removed.

As one passed outside of the barricade erected about the part of the lobby being altered, one knew only that another great structure was in process of building; one could have had no conception of the highly intricate operation that was in progress out of sight. No spectacular setting was provided to amuse and thrill an applauding audience. The importance of the undertaking with its great risks was known only to the few directly employed. They alone carried the burden of the risk; they alone maintained constant watch at all points of danger and read the indications of the transfer and balancing of the millions of pounds of load. Unapparent to ordinary vision, they could see the stresses travel from point to point through mute pieces of steel,—mute, yet speaking in the universal language of engineers.

And as the loads were transferred from the old columns and the fine and complete success of the operation was assured, equally great loads of responsibility were removed from the shoulders of those men whose unceasing labors were thus rewarded. It was all in the day's work to them, after all;—unknown, unappreciated and unapplauded! But to those who have literally lived these hidden romances of building in whatever field, there comes a thrill of emotion, of relief and pride to have been one of the great guild of engineers,—unsung but nevertheless honored. It is then that one touches with reverent hands these vast bulky masses of steel that alone make great things structurally possible.





*Photos. Wurts Bros.*

JAMES McCUTCHEON & CO. BUILDING, NEW YORK  
CROSS & CROSS, ARCHITECTS; STARRETT & VAN VLECK, ASSOCIATED

*Plans on Back*



A TYPICAL FLOOR



MAIN FLOOR



BASEMENT

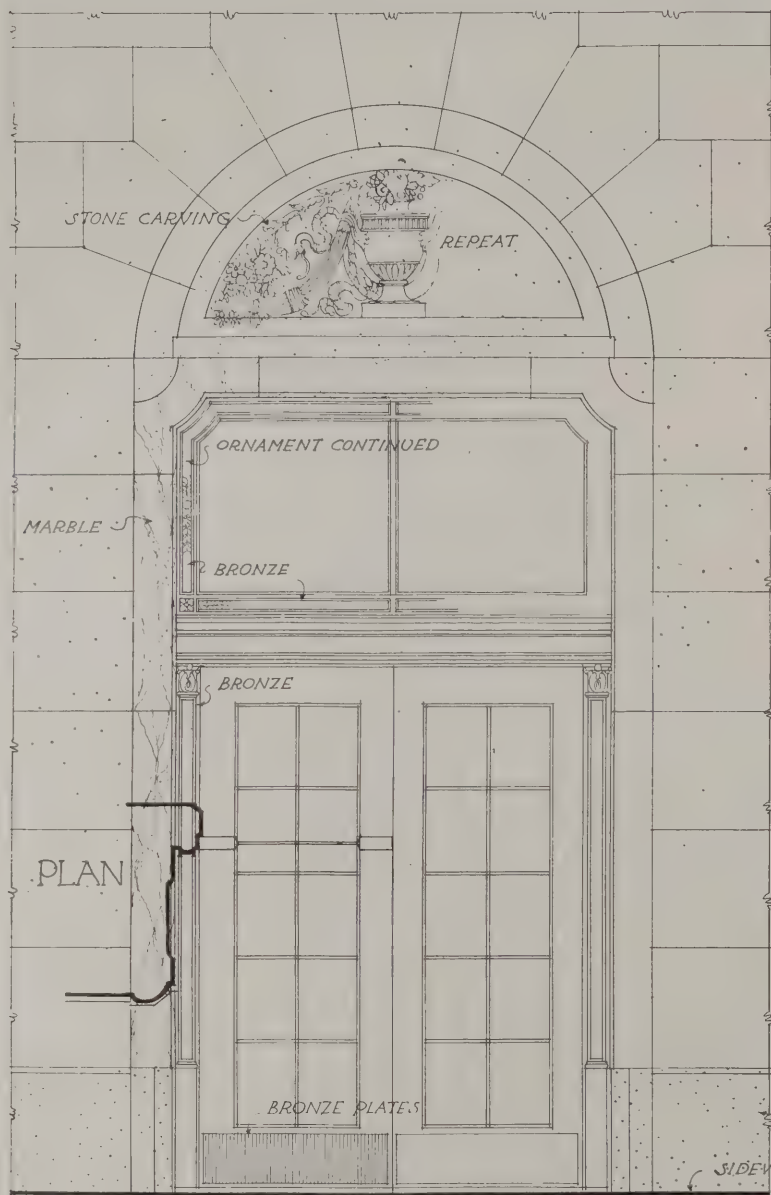
PLANS, JAMES McCUTCHEON & CO. BUILDING, NEW YORK  
 CROSS & CROSS, ARCHITECTS; STARRETT & VAN VLECK, ASSOCIATED



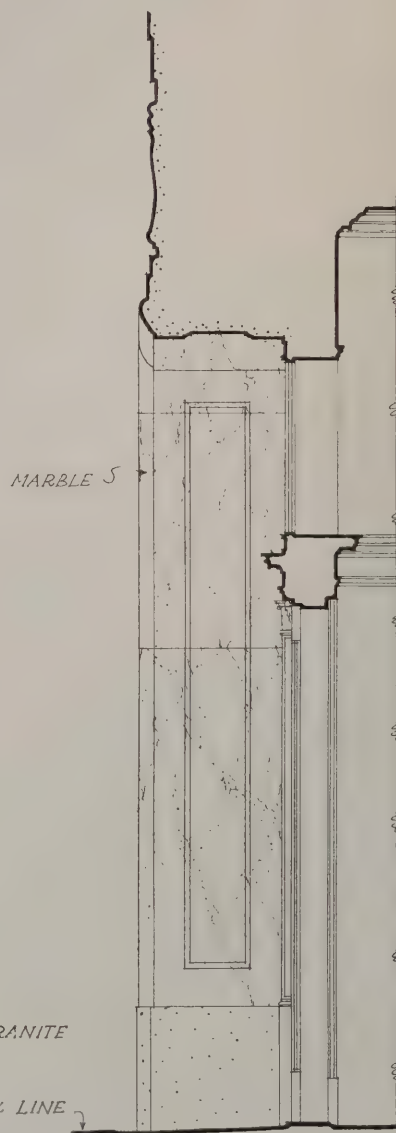


ENTRANCE, JAMES McCUTCHEON & CO. BUILDING, NEW YORK  
CROSS & CROSS, ARCHITECTS; STARRETT & VAN VLECK, ASSOCIATED

*Measured Drawing on Back*



ELEVATION



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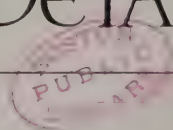
## DETAIL OF ENTRANCE

CROSS AND CROSS, ARCHITECTS  
STARRETT & VAN VLECK, ASSOCIATES  
NEW YORK CITY

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# The ARCHITECTURAL FORUM DETAILS







*Photo. F. E. Geisler*

COURT OF PALMS, RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT







LOGGIA AND COURT OF PALMS, RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT

Photo. Ray BuDane







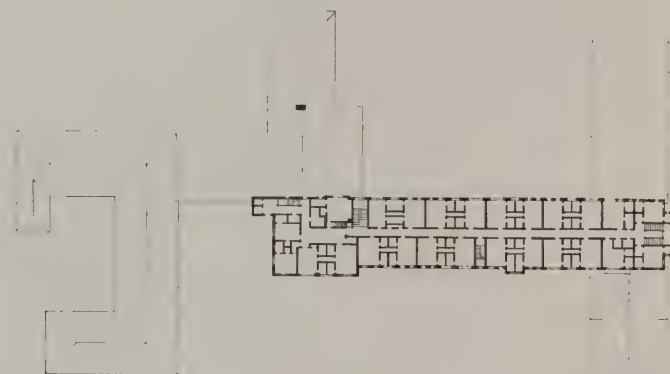
WEST FACADE



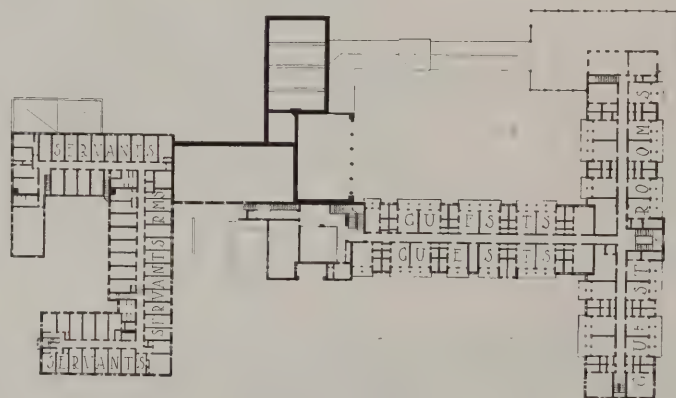
*Photo. Ray B. Dame*

*Plans on Back*

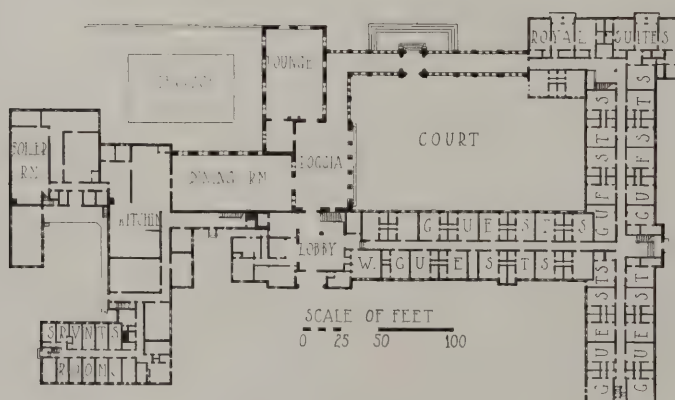
A VIEW OF THE SOUTH SIDE  
RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT



THIRD FLOOR



SECOND FLOOR



GROUND FLOOR

PLANS, RITZ-CARLTON CLOISTER, BOCA RATON, FLA.

ADDISON MIZNER, ARCHITECT





RESTAURANT, RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT

Photo. F. E. Geisler







Photo. Ray B. Dame

THE LOGGIA



Photo. F. E. Geisler

DOORWAY FROM LOGGIA TO RESTAURANT  
DETAILS, RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT







ONE CORNER OF THE LOUNGE



*Photos. Ray B. Dame*

A DETAIL OF THE LOUNGE  
RITZ-CARLTON CLOISTER, BOCA RATON, FLA.  
ADDISON MIZNER, ARCHITECT





## Old English Inns; Part II.

By CLINTON H. BLAKE, JR.

IT is not at all necessary for the seeker of the inns of other days to fare far afield. Some of the most interesting survivals of early English inns are to be found within a short distance of London. The difficulty with many of the inns near London is that they have been ruined by too much publicity and tourist patronage or have been modernized out of all semblance of their former selves. There are many nearby localities, however, where inns, many of them of rare historical associations, may be seen in quiet surroundings and without even ordinary tourist competition to spoil the enjoyment.

Let the visitor to London, for example, ask anyone of the ubiquitous "bobbies" the way to Hampstead Heath, and in a remarkably short time the bus will put him down within easy walking distance of a number of old hostelries well worth his visit. Their names alone,—the "Spaniards," "Jack Straw's Castle" and the "Bull and Bush,"—are a delight to him who has something of imagination. In fact, a fascinating book might be written on the nomenclature of the old inns of England, and yet another upon the signs which still hang above their doors.

By far the most amusing and satisfying of the Hampstead inns is the "Spaniards." It comes upon us suddenly, as we round a curve in the road which runs down from the top of the Heath. It is of Spanish rather than English architecture, and yet it seems to blend delightfully with its surroundings and with the quiet English countryside about. Built of brick, painted white, low and rambling, with green shutters and gay window boxes, it presents a very pleasant sight as one approaches its entrance.

Separate from the main building are two small towers of generally similar architecture, one on each side of the highway. An ideal spot this for the operations of the highwaymen in the olden days! One is not at all surprised to learn that the famous Dick Turpin was a frequent caller at the "Spaniards," and that the inn was closely associated with him and his exploits. There is still a small window which is said to have been cut for his special benefit that, when hard pressed by the king's men, he could receive through it, and without dismounting, a draft of ale and a bite to eat. From the rear of the inn, fast falling into decay, unfortunately, is the old stable,

where we are told his good horse "Bess" was stabled. Near by is a typical inn garden with tables and sheltered arbors, where at one's leisure one may sample mine host's refreshments. On the second floor there is a charming old room, the windows of which look down upon the garden, and some rather fine oak paneling and beamwork. Downstairs is the snugest of bars, presided over by a very efficient barmaid, who might very well be a descendant of the one with whom Dick Turpin flirted. A few feet away is a fine old paneled room (now unfortunately painted green), where the traveler who prefers to rest indoors may do so to his heart's content, quite undisturbed,—an ideal spot where the traveler may repose.

Due to its special Spanish architecture, the "Spaniards" is distinct from the ordinary type of English inn of equal age. It is typically English, however, in its atmosphere of unhurried quiet and restfulness. One may eat and drink, or sit for hours without issuing an order, as one will. This absolute freedom to do as one wishes, free from the importunities of officious clerks or waiters, is one of the most delightful characteristics of the wayside inns of England. The traveler may come and go as he pleases. He who orders a glass of beer or ale, or merely sits and smokes a friendly pipe, without any purchase, is as welcome as he who spends a week and orders the best which is available,—all very different from what obtains in America!

Curiously enough, "Jack Straw's Castle" has also a distinct touch of foreign architecture. It is far more Italian than English in its exterior appearance. It stands upon the top of the hill above the "Spaniards" and commands an extended view across the Heath to the city in the distance. It was named for Jack Straw of "Watt Tyler Rebellion" fame, and is said to be between four and five hundred years old. Neither within nor without, however, has it the charm or interest which characterizes the

"Spaniards." It will be sufficient if we pause here for an excellent luncheon on our way to the "Bull and Bush." As we eat at one of the long balcony windows, we may look across the valley to the dome of St. Paul's and the dark area about it which is London wrapped in its smoke.

Strolling down the hill a matter of perhaps a mile, in a direction different from that which



The "Spaniards," Hampstead Heath





Main Entrance, The "Spaniards"

we followed to the "Spaniards," we come to the "Bull and Bush." It is the most famous of all the inns near Hampstead, and was a famous rendezvous of many celebrated literary men in days gone by. Here Hogarth lived for some years, and here, so we are told, gathered Addison, Gainsborough, Garrick, Joshua Reynolds, Lamb, Coleridge, Sterne and many others. The "Bull and Bush," however, has not escaped, as has the "Spaniards," the devastating touch of modern "improvements." It has recently been changed almost beyond recognition by the addition of a new front and by thorough general modernizing which has gone far to rob it of its former



In the Garden, The "Spaniards"

atmosphere and charm. It still retains, however, largely unchanged, its famous Hogarth room. A splendid room it is in truth, with its delightful windows and glorious black oak. The beamwork of the ceiling is especially noteworthy, and here for a moment one can pause and forget the concrete walks and other equally inappropriate innovations, in the recollection of the "Bull and Bush" of other days.

I was fortunate enough to secure from the landlord a pamphlet giving some of the history of this old inn. Among other interesting material, the pamphlet contains extracts from an account of the inn which appeared in Payne's "Wine and Walnuts,"



The "Spaniards," from the Highway



The Garden, The "Spaniards"



and which describes a visit to the "Bull and Bush" by Reynolds, Garrick, Sterne, Caleb Whitefoord, Bunbury and Payne. Some parts of the account are rather interesting by reason of the celebrities involved and on account of the picture which they give us of the "Bull and Bush" of that day.

"Sir Joshua, at length, was prevailed upon to make an idle day: when Gainsborough observed, 'Reynolds has already entered into an agreement with me, that the next time he played the truant it should be to take a trip to Hampstead; so let him look to his bond.'"

\* \* \* \* \*

"We assembled at Garrick's, on the Adelphi Terrace, according to agreement, and found the chariot already at the door. Gainsborough had invited Caleb Whitefoord, who had arrived. Reynolds drew up as St. Paul's struck six, which we heard from the Thames. We were all punctual to the minute, excepting Mr. Bunbury, who was a quarter of an hour after his time, 'which must be excused,' said Sir Joshua, with his accustomed good nature: for Garrick began to fidget, and pull out his watch ten times in a minute, as he heard the impatient horses paw the ground. 'Consider, my friend Davy,' said Reynolds, 'we are waiting for a young man of fashion, whose movements are neither controlled by parish clock nor prompter's bell.' Bunbury at length appeared fresh from the toilette. His elegant manners graced an apology for being beyond his time. When all was right, as the postboys say, off we set, one of the gayest Cockney parties that ever stole a march beyond the reach of city smoke. The man of fashion drove his phaeton, so that together our cavalcade made a figure on the road."

\* \* \* \* \*

"What a delightful little snugery is this said Bull and Bush," observed Gainsborough, as he poured the new milk into his breakfast cup. 'Faith! there is cream upon't. And what a table cloth!



The "Bull and Bush," Before Remodeling

Damask—Dutch damask by the Lord! bright as the geese that flap their wings there upon the Heath."

\* \* \* \* \*

"Do tell me, Sir Joshua, and you other traveling luminaries, pray have they any such delectable, healthy, stomach-wetting little inns abroad?" asked Gainsborough. 'As I hope to be saved, I am as hungry as a winter wolf. By the powers, I am calculating upon dinner in the midst of breakfast. Let us knock up a bill of fare. Item, four dainty little white chicks, with a gizzard tucked under one arm and liver under t'other; parsley and butter—did you see that double-headed parsley in the garden, Reynolds?' 'No, I did not; it escaped me.' 'No, sir; why, where were your chromatics?—trees in miniature, a fairy wood, green as an emerald—and not see it! Yes, white-legged chicks and streaky bacon. Didst see the peas, Reynolds, turning up the lilliputian hop poles?' 'I did, sir,' answered Reynolds, smiling, "Oh, be thankful to the Lord for preserving your optics,—that's a blessing at any rate."

Payne then goes on to give a rather good picture of the principals and of the rural setting of the inn.



Tea Garden, The "Bull and Bush"



The "Bull and Bush," Remodeled





Two Views of "Jack Straw's Castle"

"It could not fail to be a day of days, with such a party. Master Caleb then was a choice spirit, Gainsborough perfectly unique, Reynolds interesting to the very letter of politeness, Garrick a mirror of all that should delight; Sterne's gossip—was it not above all price? and young Bunbury, a promising disciple of that old school—the memory of which might well eke out another tear. I have lately stood and mused on that still spot—upon that hill that faces the back window of our little inn, where, on a space that might be covered with our old club carpet, once stood those worthies, drinking in the pure air, and talking of the beauty of the scene. 'There, Reynolds,' said Gainsborough, 'there, look along this dell; how richly it is wooded. I am no friend to enclosures, yet this picture composes well; yes, beauti-

fully, intersected as it is. Look, Sir Joshua, how that sweep betwixt Hendon and Mill Hill reposes in dusky shade.'"

\* \* \* \* \*

Such was the "Bull and Bush" in its prime. Such are the memories that the traveler of today will wish to bring to mind, as he saunters through its garden, and overlooking its incongruous modernities, pictures it to himself as it was when the trip thither from London was something of an undertaking, when Hogarth lived within its walls, and when good oak paneling was preferred to wallpaper and to calcimine. He who spends the day at Hampstead Heath cannot fail to carry back with him to the city a feeling of restfulness and of quiet well being, as a result of the hours spent among these old landmarks.



"Jack Straw's Castle," Hampstead



# SMALL BUILDINGS

## A Criticism of Reproductions in the Early English Manner

By LEWIS BOWMAN

THE ensuing paragraphs must essentially be a criticism, principally of ourselves, the architects, and the all too smug way in which we are producing, all over the country, hundreds of so-called "English" houses. By now the style is pretty well identified in the mind of the average suburbanite. To them it means a house with pointed gables and dark trim, with a front door somewhat resembling one used in a church. Similarly, a "Colonial" house is of shingles or clapboards, painted and using shutters at the windows. Any stucco house at all with a tile roof is either "Spanish" or "Italian." The next detail is relative to size and cost, and it is designated a "big English house," or a "big Colonial house," etc., and that is about all that makes an impression, as our work is generally lacking in skill and detail. Therefore, there is no way of judging houses other than merely generically. In the case of English houses, it has lately become the vogue, as we are all aware, to try to simulate the appearance of old work by reviving the methods and the use of materials employed by the ancient craftsmen. That in itself is a very commendable idea, as the satisfactory use of common material is often extremely difficult, and if such simple lines as these houses demand are carried out in materials that are too set and true, the result is very unpleasant and frequently has a tendency to look cheap.

We can all bear witness to a number of Elizabethan type houses built in this country just before the war that were really designed in the proper spirit and with due regard to detail. But they were finished so hard and true, painted so neatly, and stuccoed so carefully that the result is almost unpleasant. Whether they are as bad as the atrocities that now greet one every-

where, their walls covered with plaster of attempted "texture," is doubtful. Most of the adzed work in these could have been done better by a few boy scouts using their camp hatchets. Of course, if a mechanic were told what adzed work was and why it came into being, the results undoubtedly would be better. Until recent times, sawmills were rare, and it was a laborious task to haul heavy pieces to the mill. It was comparatively simple to square up a log where it fell, make out of it the piece wanted, and haul that to the site. The broadaxe usually left a very coarse texture to the stick, and where it was meant to show (as in half-timber work), it was finished smoother with a sharp lipped adze or sometimes a scrub plane. A skillful mechanic can use a lipped adze with such precision that the piece is quite smooth, showing only a slight variation in the surface. Hacks and splinters and such marks would in this class of work be out of place, as they were trying to make a good job. But, being craftsmen, they saw that the pieces were plenty "good enuf" as they came from the adze, and "let well enuf alone." I have found that the easiest way to

get results is to find a man that really has used an adze and knows the tool; they are not uncommon. Then ask him to make the smoothest job possible using this tool in the accustomed way.

As all trees are not straight, and as timber in England has always been scarce, they were compelled to use some pieces not entirely true. If one looks at the typical English oak as it grows, one will notice that it is very gnarled, and to get all straight timber would have been almost impossible. Likewise, oak is very treacherous in structural work. That is, if one wants the timbers to remain perfectly level and plumb, that they will not do, as



*Illustration from Country Life*

National Provincial Bank, Stratford-on-Avon





The Dining Hall, Sulgrave Manor, After Restoration



Illustrations from *Country Life*

The East Front, Dorney Court, Buckinghamshire

they twist and bend and bulge and do everything that they should not do. But, curiously, the result is not often satisfactory.

The use of tenon pins in false half-timber is another bit of comedy usually staged in connection with our so-called half-timber work. For a pin to be used, there must be a tenon behind it. I have actually seen innumerable cases (and have had it happen on my own work) where the pins were put on the pieces that should contain the tenons. This is presupposing, of course, that we are using false half-timber and stucco. The use of false half-timber has very often been severely criticized, but as it is almost impossible to make solid oak weather tight, due to shrinkage, it has become a mere form of wall decoration. Where brick filling is used, it is about as easy to use solid timber in parts of the country where it can be had.

And where in the old country can anyone find precedent for such terribly rough stucco? As we all know, Portland cement is a product really of our own time. The old work was made from many mixtures, having lime putty (which set very fast) as a base. A plasterer trying to float it smooth had a hard time to keep up with it, and with him as with the man with the adze, almost smooth was "good enuf." The same with brick. They were hand moulded and handled, and they warped in the fire. The different yards, due to transportation troubles, did not bother to bring



other materials from elsewhere to mix in to correct this fault as they do today, so the brick mostly used were a crude local product. The brick used for the finer houses were usually Dutch or Flemish, and curiously enough they still prefer these imported brick in England. But one never sees in old work those lumpy, blistered, and contorted pieces of rubbish that today we call "artistic." Then, as now, a self-respecting brick mason would have thrown them into the dump; but he would not have objected to using them if they were "almost" perfect.

And where originated the idea that an old roof could be duplicated or even successfully imitated? In the first place it is absolutely impossible to reproduce an English cottage roof. Many of them are covered with thin split slabs of stone, of a light gray color, which are thin but thick in proportion to their sizes. Stone was used even in the old days in preference to slate, because English slate is very thick, black and ugly. Old tile is also difficult to imitate, but several of our manufacturers are soon to place on the market a reproduction of English tile. So, perhaps, we may yet have some of those fascinating pale red roofs to help brighten our drab countryside. The thatched roof does not stand the extreme changes of temperature found in most parts of our country.

Our designs, to sum up, are, on the whole, woefully unstudied and unskilled, and the great



*Illustration from Country Life*

Oak Screen, Dining Hall, Sulgrave Manor



The Swan Inn, Techlade, Gloucestershire

*From "Old Cottages in the Cotswold District"*



majority of the designers are wholly ignorant of the precedents they try to follow. I believe that if a good, honest artisan of the Tudor or Jacobean period should be reincarnated and be able to see what we have accomplished in imitating work of his times, he could find a round dozen (more likely less) houses in this whole country of ours that possess the picturesqueness resulting from the skillful use of common materials as used in his day. One very good and obvious explanation of our poor showing is that we fail to realize that this work is not really "architecture" and cannot be taught. It is actually craftsmanship; masonry and carpentry; brick, stone, and oak used with loving care and a consummate appreciation of their structural values. The modern English architect, even with the actual examples before his nose, usually "muffs" it,—but not as often as we do. The period itself was crude and unschooled, and one is

often asked if it is quite in the way of progress to go back so far for our ideas. My answer is that the day is not far off when some architect will build an English house which has all the spirit and charm of the many examples of this period left to us. After that we shall all impatiently watch for signs of real progress and improvement. By this I mean not only a deeper appreciation of the underlying qualities which give to early English domestic architects its fascination and picturesqueness, but also a consistent and logical use of the several elements which definitely mark this style. So subtle is the spirit of these early buildings that great care must be taken in their composition and the legitimate use and scale of the elements which characterize them. No rules can be laid down which will insure the creation of a distinctly picturesque bit of architectural design; inspiration and an innate feeling for beauty are absolutely essential.



*Illustration from Country Life*

The Kitchen Gables, Dorney Court, Buckinghamshire

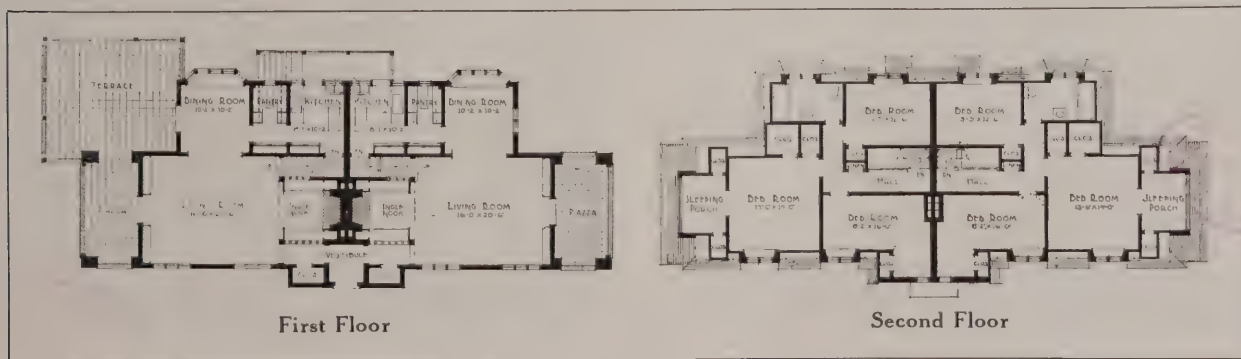




TWO-FAMILY HOUSE AT NEWTONVILLE, MASS.  
DANA SOMES, ARCHITECT

HERE is an excellent example of a small double house carried out in a simple adaptation of English cottage architecture. The use of high dormers, so placed that the slope of the roof starts midway of the windows, provides sufficient practical wall space for the second story rooms. Use of tinted stucco and practically no trim around the window and door openings, and very little overhang to the eaves, produce a clean-cut, straightforward effect characteristic of many of the recently designed English houses. Carrying the slope of the high hipped roof down over the living porch at one end of the building obviates the necessity of having an unseemly flat-roofed projecting porch, which seldom looks well on an English type of house. A desirable openness to the porch is achieved by the lack of obstructing posts or piers across its longest side.

This building also shows the decorative effect produced by the use of gay awnings on a severe exterior. The wide dormer on the sloping roof over the living porch undoubtedly makes an attractive feature as a sleeping porch for the main bedroom, but it does not add to the artistic effect which would have been achieved had the long sloping roof at this end of the building remained unbroken. Unfortunately, architects are frequently obliged to set aside artistic considerations in favor of practical convenience or the special requirements of their clients. The front elevation is logically broken by the entrance bay, the roof of which is effectively brought down to a point slightly below the line of the eaves of the main roof. This entrance bay is symmetrically balanced by windows and dormers on either side, giving a formal touch to an otherwise informal design. This com-



## FORUM SPECIFICATION AND DATA SHEET—150

Two-Family House at Newtonville, Mass.

Dana Somes, Architect

## OUTLINE SPECIFICATIONS

GENERAL TYPE OF CONSTRUCTION:

Frame.

EXTERIOR MATERIALS:

Stucco on metal lath.

ROOF:

Slate.

WINDOWS:

Wood, double-hung.

FLOORS:

Oak.

HEATING:

One-pipe steam.

PLUMBING:

Brass for hot water supply; galvanized iron for cold.

INTERIOR MILL WORK:

Gumwood throughout.

INTERIOR WALL FINISH:

Sand-finished plaster.

INTERIOR DECORATIVE TREATMENT:

Cream walls; brown trim; paper in bedrooms.

**COMPLETED COST:****\$25,520.75.**

DATE OF COMPLETION:

January 1, 1923.

ination of formal and informal is always possible in English cottage architecture, giving to it much of the fascination and charm which render it so popular and which probably cause its widespread use.

The interiors are consistently and successfully carried out in an adaptation of the simple English style of the exterior. The ingle nook off one of the living rooms, shown in an accompanying illustration, gives a homelike touch to this principal room. The enclosing of the stairway which leads out of the living room is always a desirable feature in a house of this size. It makes it possible to curtain off the stairway to prevent drafts in winter. Rough plastered walls and stained gumwood add to the simple and extremely direct English effect of the interior of the building.

The plans of this interesting double house show a similar arrangement of living room, dining room,

pantry and kitchen in each half. The only difference in the two halves of the first floor plan is the introduction of a large open terrace connecting with the covered porch at the left end of the building. Each half of the second floor contains three bedrooms and a bath, making a practical and comfortable arrangement of rooms for the use of a small family. One of the interesting and successful features of this design is the use of a single entrance door and vestibule for both of the houses, thus obviating the necessity of constructing two separate doorways which would have deprived the design of much of its charm and dignity. This plan might well be studied by an architect facing the problem of designing a building for two families, a type of structure which economic conditions often render desirable in the suburbs of large cities, and sometimes in the country.



Ingle Nook Off Living Room



The Entrance Facade



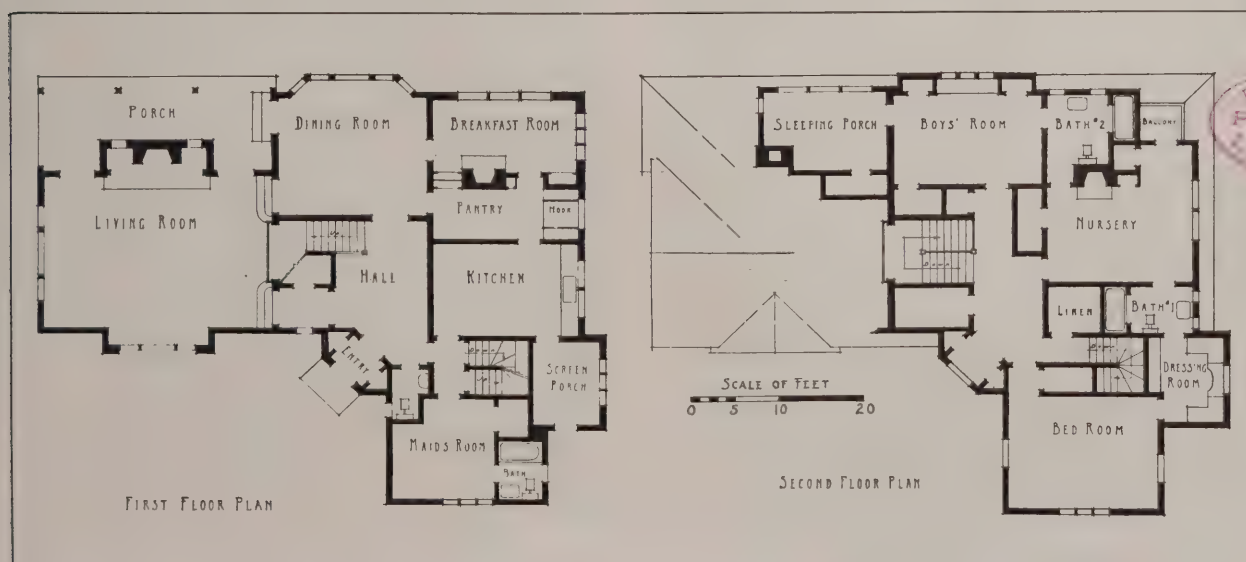


HOUSE OF J. T. PENTON, ESQ., PASADENA  
KENNETH A. GORDON, ARCHITECT

WHEN one thinks of architecture of the Pacific coast, the Spanish or Italian type of house usually comes to mind. But here is an attractive example of the use of the English type of country house in a California setting. Half-timber design is effectively introduced in the several gables, pleasantly breaking the monotony of the plain stucco-covered wall surfaces. The inclusion of the living porch under the main roof of the house is an excellent idea, giving greater length to the lines of the main roof, and producing a pleasant mass of shadow at one end of the house to balance in a measure the group of casement windows which light the breakfast room at the opposite end. The rough hand-hewn timberwork harmonizes well with the rough cast of the stucco-covered walls. Both the front and the rear elevations of the house are so pleasing that

it is difficult to decide which of the two is the more successful. The placing on the main front of a two-story semi-hexagonal bay in the angle formed by the two wings of the house makes an attractive architectural feature and accommodates excellently the entrance door. The break in the roof lines of the two wings, as well as the introduction of the living room bay carried out in half-timber patterns and brick, further adds to the picturesqueness of the design. As indicated on the elevation, the living room is a story and a half in height, adding importance and distinction to this, the principal room of the house, and in entire keeping with its character.

The plan is as irregular and interesting as are the elevations. Entering at the angle made by the two wings, a small center hall with stairway successfully unites the living room and dining room with the



## FORUM SPECIFICATION AND DATA SHEET—151

House of J. T. Penton, Esq., Pasadena  
Kenneth A. Gordon, Architect

## OUTLINE SPECIFICATIONS

GENERAL TYPE OF CONSTRUCTION:  
Frame.

EXTERIOR MATERIAL:  
Stucco.

ROOF:  
Split redwood shakes.

WINDOWS:  
Steel casements (leaded glass in living room).

FLOORS:  
Living and dining room, stair hall and sun room, oak planks, random widths; bedrooms, upper halls, maid's room, clear plain oak.

HEATING:  
Unit gas furnaces, electric control.

## PLUMBING:

Porcelain enameled tubs, showers over. Pedestal lavatories.

## INTERIOR MILL WORK:

Pine, and hall panel work birch.

## INTERIOR WALL FINISH:

Plaster walls of irregular texture; principal room, white coat and sand finish.

## INTERIOR DECORATIVE TREATMENT:

Walls, oil painted and glazed, except bathroom and kitchen; bedrooms papered.

APPROXIMATE CUBIC FOOTAGE:  
70,394.

## COST PER CUBIC FOOT:

45 cents.

## DATE OF COMPLETION:

August 1, 1924.

service department. Locating a maid's room and bath on the first floor, objected to by some clients, makes it possible to devote the bedrooms on the floor above entirely to the use of the family. Placing the living room floor three steps below the level of the rest of the first floor, and carrying its walls up into the rafters, give greater height to this principal room. The living porch is also located on the same level as the living room, thus obviating the necessity of having steps to the porch. It is unfortunate that space does not permit the inclusion of an illustration of the rear elevation of this interesting house, since on this

side an abrupt drop in the grade permits the introduction of a garage and laundry under the kitchen and breakfast room, an arrangement always desirable in a small suburban house. A small garage seldom possesses any architectural character or significance unless definitely attached to a house by a colonnade, arcade or low covered passageway. The detached garage only too frequently takes up valuable ground space on a lot already none too large for the house built upon it, while a garage which is part of a house often adds materially to its architectural interest by extending its area and the range of its roof lines.



Looking Toward Living Room



The Principal Entrance

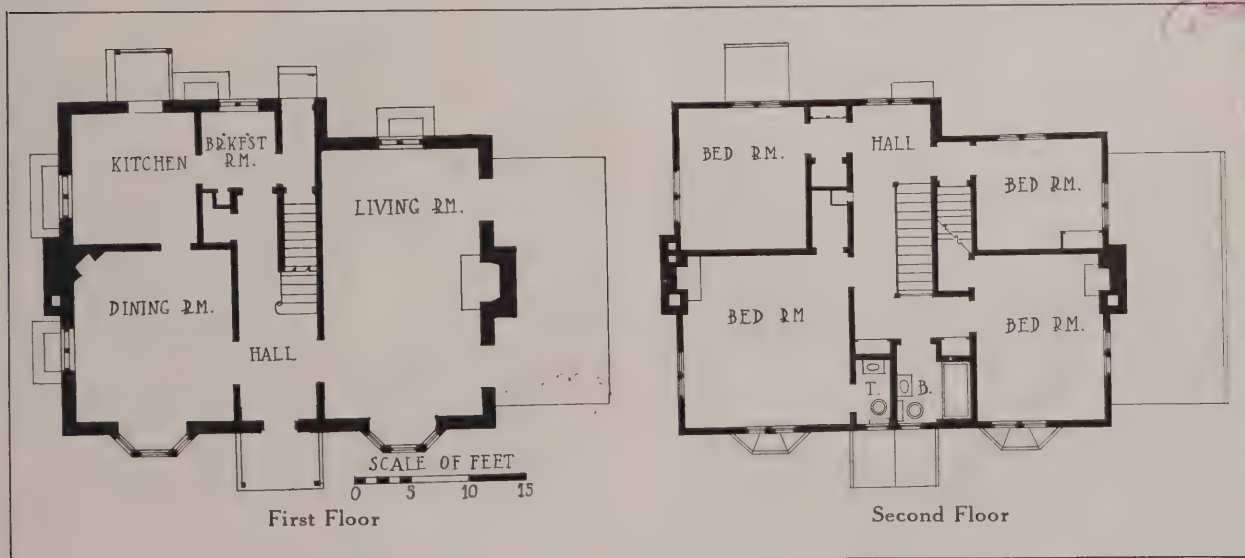




HOUSE OF DR. A. W. HAUER, COLUMBUS, O.  
MILLER & REEVES, ARCHITECTS

IT is interesting to see how originality in the treatment of detail and materials can give a quality of charm and strong individuality to an otherwise plain, square building. In Columbus, O., is a small house which well illustrates just this point. The

first story and the two end chimneys are faced with stone laid to a flat surface. Placing a small and attractive bay window on each side of the entrance porch with windows above similarly and symmetrically placed gives balance to the front elevation.



## FORUM SPECIFICATION AND DATA SHEET—152

House of Dr. A. W. Hauer, Columbus, O.

Miller &amp; Reeves, Architects

**OUTLINE SPECIFICATIONS****GENERAL TYPE OF CONSTRUCTION:**

Non-fireproof; stone foundation.

**EXTERIOR MATERIALS:**

Stone, frame and stucco.

**ROOF:**

Slate

**WINDOWS:**

Wood casements.

**FLOORS:**

Oak and pine.

**HEATING:**

Hot air.

**INTERIOR MILL WORK:**

White pine and poplar, painted.

**INTERIOR WALL FINISH:**

Smooth plaster.

**INTERIOR DECORATIVE TREATMENT:**

Papered.

**APPROXIMATE CUBIC FOOTAGE:**

34,000.

**COST PER CUBIC FOOT:**

Between 45 and 50 cents.

**YEAR OF COMPLETION:**

1923.

The treatment of the trellises supporting the roofs of both entrance and living porches is original in design. Diamond-paned casement windows suggest English cottage influence, as do also the small bay windows. Excellent and well thought out planting ties the house to its site in a pleasing fashion. It is a pity that additional and sufficiently high planting was not arranged to screen the very modern looking red brick house on the adjacent lot, slightly to the left.

The plan is typical of the usual square or rectangular single house. A center hall with stairway at one side separates the dining room from the liv-

ing room, the latter opening onto a flagstone-paved living porch across one end of the house. At the rear of the center hall are a coat closet, a breakfast alcove, and a rear entrance. A good sized kitchen connects with both dining room and breakfast alcove. Four bedrooms and two baths and excellent closet space occupy the second floor, from which a stairway leads to two servants' rooms on the floor above.

The unusual charm of the exterior of the house is due to its restrained, highly architectural lines, its balance, and the use of stone and stucco, materials use of which always affords a pleasing combination.



Corner of House



The Entrance

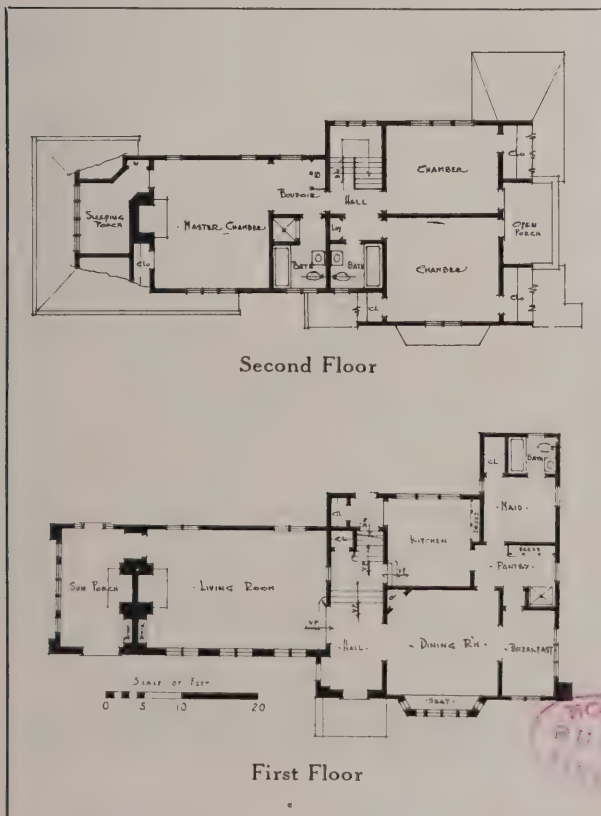




HOUSE OF FRANK G. SCHRENKEISEN, ESQ., NEW ROCHELLE, N. Y.  
D. A. SUMMO, ARCHITECT

AN attempt at originality and a decided variation from the usual English type of small house are found in this recently completed building at New Rochelle. Rough stucco, brick and stone, as well as wide vertical siding are the several materials used to produce the original effects found in this design.

The high entrance gable with its centered bay window, entrance door on one side and breakfast porch on the other, gives a pleasing bit of balanced design. The proportions of this gable, particularly the relation of its height to its width, are satisfying. The type of bay window used also seems to "belong." A



The Entrance



## FORUM SPECIFICATION AND DATA SHEET—153

House of Frank G. Schrenkeisen, Esq., New Rochelle, N. Y.  
D. A. Summo, Architect

## OUTLINE SPECIFICATIONS

GENERAL TYPE OF CONSTRUCTION:  
Frame, stucco, brick veneer and stone.

EXTERIOR MATERIALS:  
Stucco, brick and stone.

ROOF:  
Stained shingles.

WINDOWS:  
Wood casements with leaded glass.

FLOORS:  
Oak.

HEATING:  
Hot water.

INTERIOR MILL WORK:  
Chestnut and white wood.

INTERIOR WALL FINISH:  
Plaster.

INTERIOR DECORATIVE TREATMENT:  
Parchment colored plaster.

APPROXIMATE CUBIC FOOTAGE:  
48,000.

COST PER CUBIC FOOT:  
60 cents.

DATE OF COMPLETION:  
June 30, 1926.

little restlessness of spirit is, however, found in the many-windowed second story projection which breaks out from the main roof. The corbeled treatment of a portion of the overhang is such a pleasing detail that it is rather to be regretted that it was not carried the entire length of this vertically-sheathed second story. As there is no overhang to the roof on the principal gable of the front elevation, the very heavy projection of the roof at the opposite end of the building seems somewhat incongruous, though it produces a deep shadow which always adds interest. Picturesqueness is often achieved with less evident intent than appears in this varied design.

It would seem as though a greater height to the end chimney would have given a more marked and definite balance to the design of the building as a whole.

The plan is unusually good, showing a well placed entrance hall with steps at the left leading down into a large living room with an adjoining porch. The dining room, with its attractive shallow bay window and connecting breakfast porch, is at the right. The pantry is so located as to serve both dining room and breakfast porch. Back of the kitchen and pantry is a maid's room with a bath. Three good sized bedrooms, two baths and two sleeping porches are located on the second floor of this carefully planned house.



The Entrance Facade



Living Room from Hall



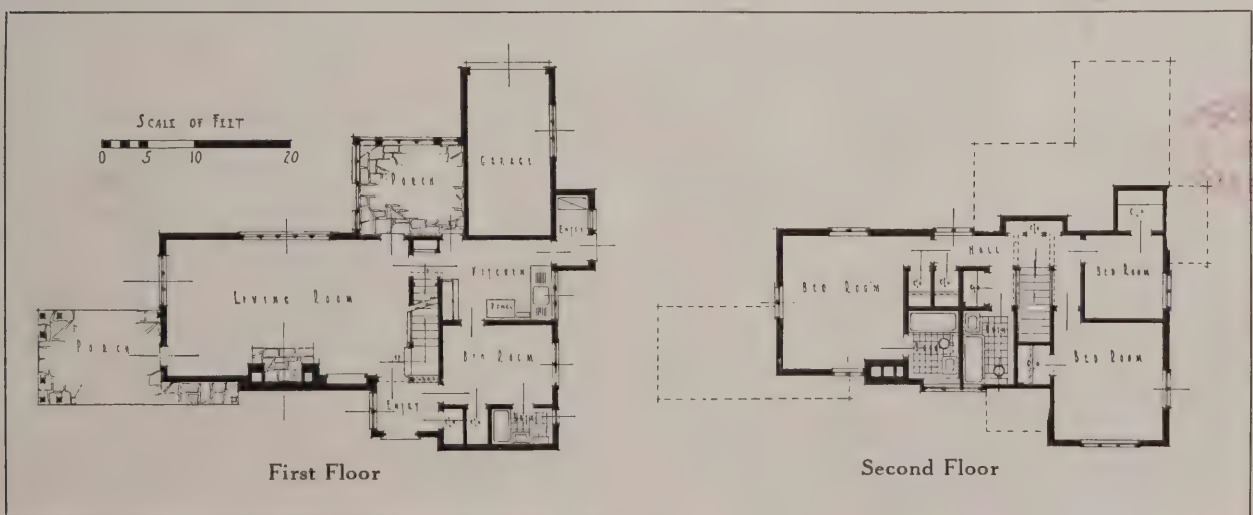


HOUSE OF ALEXANDER DISHER, ESQ., GREAT NECK, N. Y.

FRANK J. FORSTER, ARCHITECT

CHARACTERISTIC of all Mr. Forster's work, this comparatively small house has marked originality and charm of design. The tall, massive chimney is properly located to balance the high gable at the right end of the house. Wide, unbroken wall spaces give emphasis to the well placed windows and

dormers. Bright striped awnings add a note of gaiety. The high main roof slopes down in a graceful curve over the entrance porch, successfully tying into the composition this feature of the design. Long, low roofs cover the living porch, the service entrance and the garage. Stucco, brick and half-timber are



## FORUM SPECIFICATION AND DATA SHEET—154

House of Alexander Disher, Esq., Great Neck, N. Y.

Frank J. Forster, Architect

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Frame.

## EXTERIOR MATERIALS:

Stucco on frame and metal lath construction.

## ROOF:

Red cedar shingles.

## WINDOWS:

Metal casements.

## FLOORS:

Random width, oak boards in living room; narrow oak flooring in rest of house.

## HEATING:

Steam.

## PLUMBING:

Wrought iron hot and cold water supplies

## INTERIOR MILL WORK:

Oak.

## INTERIOR WALL FINISH:

Sand-finished plaster.

## INTERIOR DECORATIVE TREATMENT:

Stained woodwork; dark stained floors.

## APPROXIMATE CUBIC FOOTAGE:

24,156.

## COST PER CUBIC FOOT:

74 cents.

## DATE OF COMPLETION:

May, 1924.

the materials used to produce the picturesque effect so evident in this country house. The treatment of the stucco, we are told by the architect, is more striking than was his intention. In the struggle for new and unusual effects in stucco so prevalent nowadays, it often happens that a feeling of restlessness, rather than a feeling of repose is unintentionally obtained.

The plan shows study and care in the convenient arrangement and location of the several rooms. The enclosed entrance porch leads into the large living room on one side, and into a bedroom suite on the other. Covered porches open off two sides of the living room. One of these porches, which also con-

nects with the kitchen, is glassed in, so that it may be used as a breakfast room. Direct access from the kitchen to the living room under the main stairway makes possible the use of this principal room for both living and dining purposes. The garage is incorporated as a part of the house, which is an especially desirable arrangement during the winter season. As the first floor bedroom is probably intended for the use of servants, the entire second floor is given up to three master bedrooms and two baths. The plan, like the elevations, shows that pleasing irregularity, which is always characteristic of the English cottage type of house and appropriate to it.



The Entrance



Principal Facade



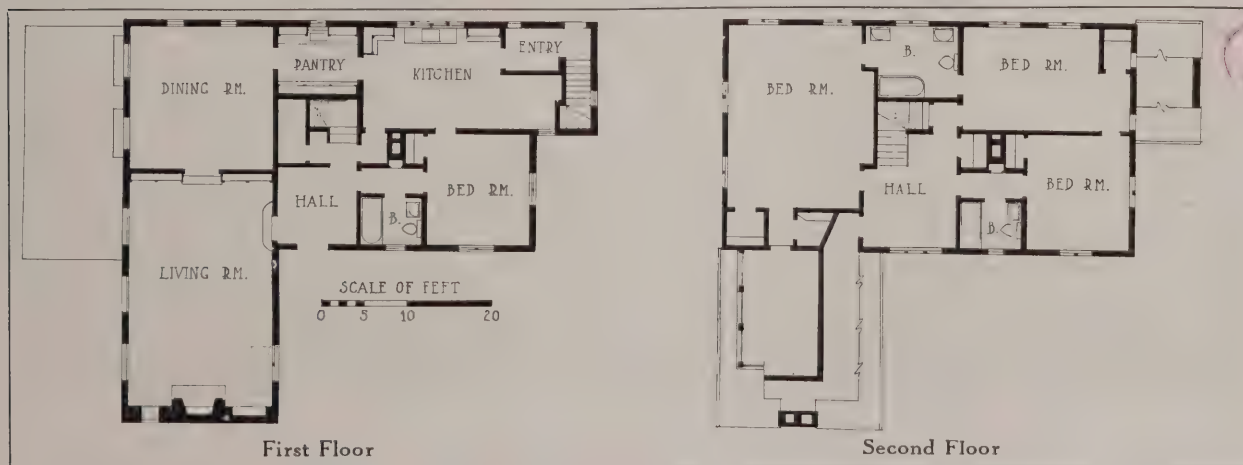


HOUSE OF E. B. BARTLETT, ESQ., WINNETKA, ILL.  
RUSSELL S. WOLCOTT, ARCHITECT

HERE is an interesting country house of moderate size showing a great deal of individuality in both elevation and plan. The use of white painted brick for the first story walls and gable ends affords excellent contrast with the stained siding of irregular widths used on the second story. The slope of the hip roof with its overhang is pleasing. The design as a whole would probably have been still more interesting had the architect been allowed to place the dormers out on the slope of the roof instead of recessing them in pocket-like apertures. Greater height and massiveness in the principal chimney of the house would undoubtedly have added still more distinction. Although severe in character, the house has a decidedly homelike quality. The one-story living room wing with its gable end chimney is tied into the house successfully and is sufficiently balanced by the projecting one-story service entrance and stairway at the opposite side of the house. The casement windows are well proportioned and logically located, giving symmetry and formality to an otherwise informal design. Placed low on the ground,

with no basement in evidence, the house fits well into its wooded location not far from Lake Michigan.

The large living room, which is two steps below the level of the dining room and entrance hall, is open on three sides and connects by a large door with the dining room directly adjoining it. An open terrace is so located as to be accessible from both the living room and the dining room. A spacious pantry connects the dining room with an unusually large kitchen, off of which opens a bedroom with bath and passageway adjacent to the entrance hall. Back of the hall the enclosed main stairway is reached through an open arch. The second floor plan, like the first, is direct, practical and convenient. Over the living room at the rear of the house, so that it does not show as the front of the house is approached, is a large sleeping porch, which opens off of the principal bedroom. Two other bedrooms, two bathrooms and many closets make up the arrangement of the rest of the second floor. The main stairway continues on to the third floor, where two bedrooms and a bath are to be finished in the future.



## FORUM SPECIFICATION AND DATA SHEET—155

House of E. B. Bartlett, Esq., Winnetka, Ill.

Russell S. Wolcott, Architect

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Frame.

## EXTERIOR MATERIALS:

Brick veneer and clapboards.

## ROOF:

Shingles.

## WINDOWS:

Wood casements.

## FLOORS:

Oak.

## HEATING:

Hot water.

## ELECTRICAL EQUIPMENT:

Conduit.

## INTERIOR MILL WORK:

White wood.

## INTERIOR WALL FINISH:

Sand-finished throughout.

## APPROXIMATE CUBIC FOOTAGE:

55,000.

## COST PER CUBIC FOOT:

43 cents.

## DATE OF COMPLETION:

July, 1924.

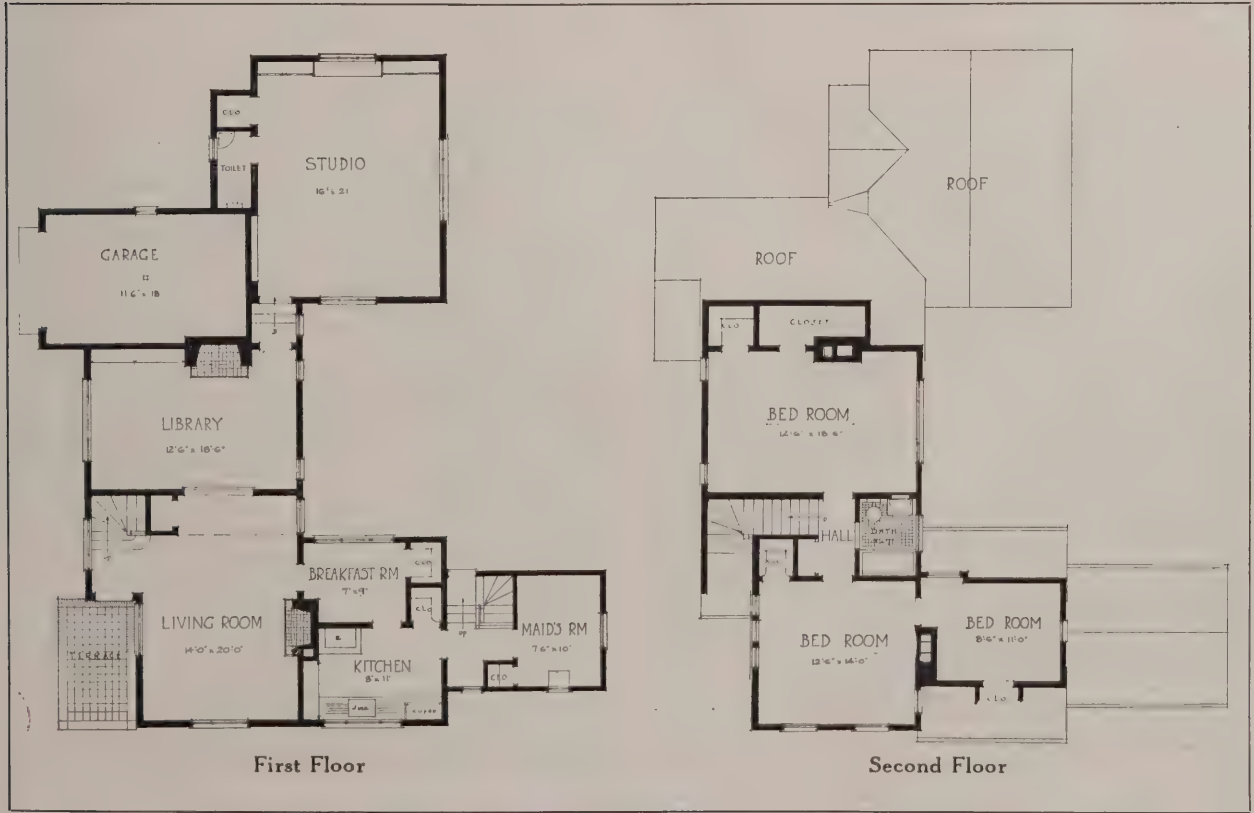


Living Room Fireplace, House of E. B. Bartlett, Esq.





HOUSE OF MRS. ELSA M. PERLEY, BRONXVILLE, N. Y.  
CLIFFORD C. WENDEHACK, ARCHITECT



## FORUM SPECIFICATION AND DATA SHEET—156

House of Mrs. Elsa M. Perley, Bronxville, N. Y.

Clifford C. Wendehack, Architect

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Frame and stucco.

## EXTERIOR MATERIALS:

Stucco and brick.

## ROOF:

Shingles.

## WINDOWS:

Steel sash.

## FLOORS:

Oak.

## HEATING:

Steam.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Cypress.

## INTERIOR WALL FINISH:

Sand-finished plaster.

## INTERIOR DECORATIVE TREATMENT:

Stain.

## APPROXIMATE CUBIC FOOTAGE:

32,987.

## COST PER CUBIC FOOT:

51  $\frac{1}{4}$  cents.

## TIME OF COMPLETION:

Fall of 1924.

THE use of very rough stucco combined with high roof lines marks the design of this attractive Bronxville house. The great chimney breaks the roof at exactly the right point to give the needed balance and weight to this picturesque grouping of wall and roof planes. Half-timber patterns and brick are used to break the monotony of the rough-cast stucco walls. The long vertical lines of the half-timber work at one gable end of the main roof add much to the high effect of this portion of the design.

As suggested by the exterior elevation, the plan is rambling. On the first floor the maid's room, kitchen and breakfast alcove occupy the right wing of the house. The living room, library, garage and studio occupy the rest of this floor. Grouped casement windows are used throughout in consistent following of the English cottage type. The projections of

the various wings make possible the tiny garden court at the back. From the living room a corner staircase leads to the second floor, where under the main roof of the house are located three master bedrooms and a bath. An arched window indicates the location of the principal stairway. Various steep gables add interest to the elevations. Under one of these gables is located the garage. Wide siding used in the top of one of the main gables adds interest and variety. The somewhat exaggerated texture of the stucco may possibly detract slightly from the repose and restraint of this interesting, picturesque composition, but the very skillful grouping of the masses of the building creates an unusual degree of architectural character which affords ample compensation. Particularly to be admired are the long, unbroken expanses of sweeping roof surfaces.



The Garage Wing

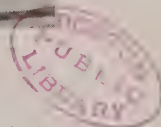


View from Garden



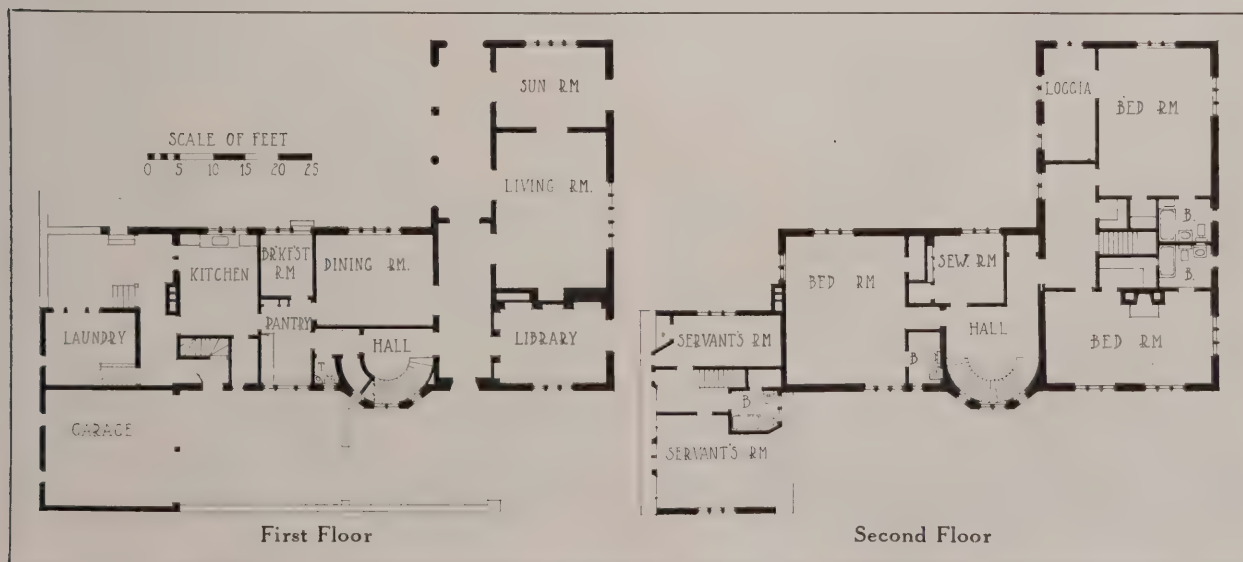


HOUSE OF CALVIN HOLMES, ESQ., KNOXVILLE, TENN.  
BARBER & McMURRAY, ARCHITECTS



THIS could hardly be termed a "small" house, and yet so interesting and attractive is the English character of its design that it seems advisable to include it in this group. The style is distinctly English, as indicated by many mullioned and casement windows, low dormers, high roof lines and hooded entrance door. One glance at the drawings is sufficient to impress one with the care and thought taken in the development of the plan, which is clearly

the work of a talented architect. The entrance hall, extending through the house to the loggia opening off the living porch and sun parlor; the secluded corner location of the library; the interesting semi-circular stairway; and the spacious dining room with adjacent pantry and breakfast room, to say nothing of the commodious kitchen, laundry and service department, are all evidences of skillful planning. Not only in elevation but in plan as well, this house is



## FORUM SPECIFICATION AND DATA SHEET—157

House of Calvin Holmes, Esq., Knoxville, Tenn.  
Barber & McMurray, Architects

## OUTLINE SPECIFICATIONS

## GENERAL TYPE OF CONSTRUCTION:

Brick 12-inch walls, with 4-inch air space between outer and inner 4-inch walls.

## EXTERIOR MATERIALS:

Culled paving brick and cast stone trim.

## ROOF:

Slate.

## FLOORS:

Oak and slate flags.

## HEATING:

Steam.

## PLUMBING:

Enameled fixtures.

## ELECTRICAL EQUIPMENT:

Lighting.

## INTERIOR MILL WORK:

Black walnut.

## INTERIOR WALL FINISH:

Sand-finished plaster.

## INTERIOR DECORATIVE TREATMENT:

Curved stairway of pre-cast concrete with wrought iron rail.

## COST PER CUBIC FOOT:

46 cents.

one to be carefully studied, since much may be learned from the ordered arrangement of the rooms.

The plan of the second floor, like that of the first, shows splendid allotment of space, there being three unusually large bedrooms with adjoining baths and ample closets. The stair hall, which occupies the center of the house, is shut off by doors and archways from the bedroom suites. A wide corridor connects the stair hall with the two principal bedrooms in the body of the house. On the second floor of the ell are located two servants' bedrooms and bath. The size of the master portion of the house would seem to indicate that more than three servants

would be necessary to care for it, but available space for the housing of more than three has not been provided. The brick walls of the house possess unusually attractive texture and character, contrasting well with the severe stone window and door trim. The principal chimney is well placed on the ridge of the main roof, adding much to the balance of the composition. Garage court and drying yard are well tied into the main design by the high walls which enclose them. Altogether, this is a most successful example of a carefully planned home carried out in a typically modern version of English domestic architecture, appropriate almost anywhere in America.



The House from the Rear



Driveway to Entrance



# EARLY AMERICAN DETAILS

MEASURED AND DRAWN BY

A. J. HARRIMAN



STAIRWAY OF THE LITTLEFIELD HOUSE, KENNEBUNK, ME.

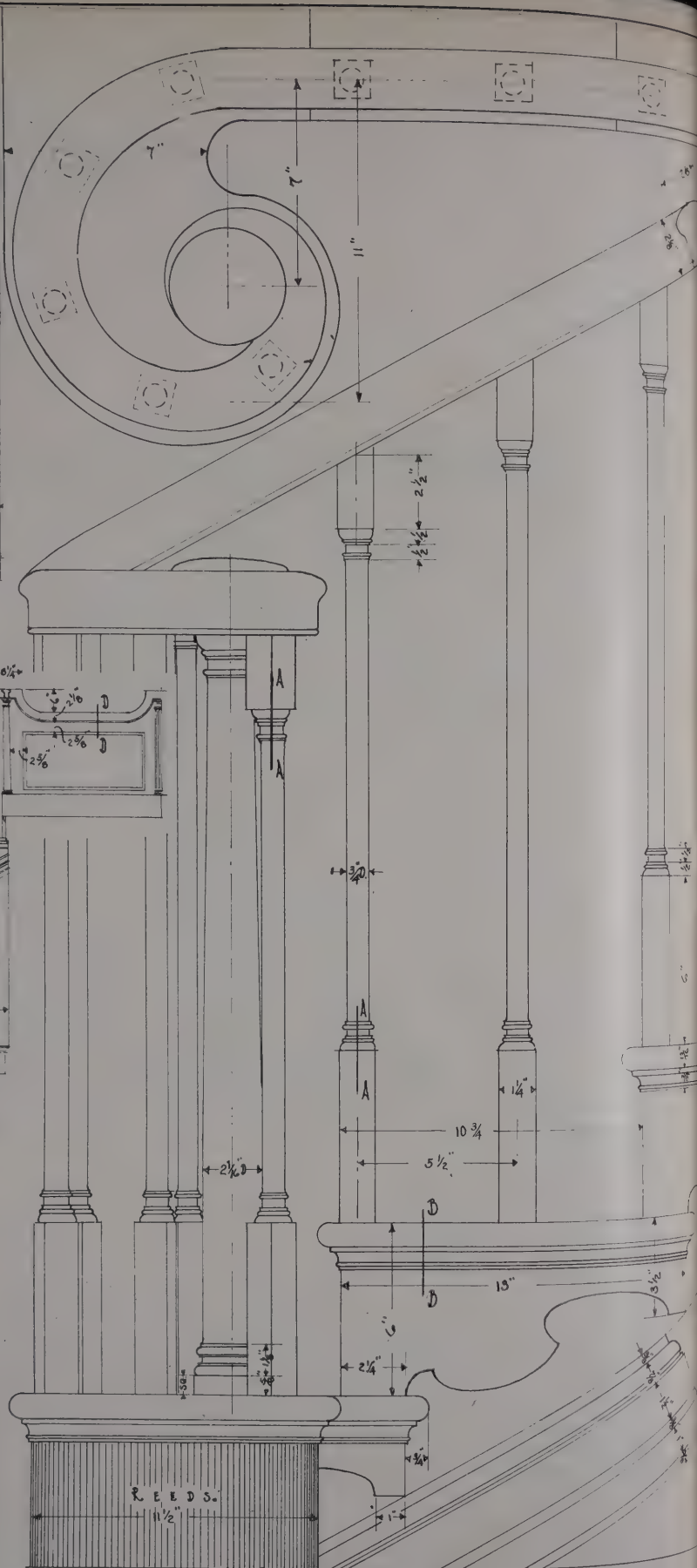
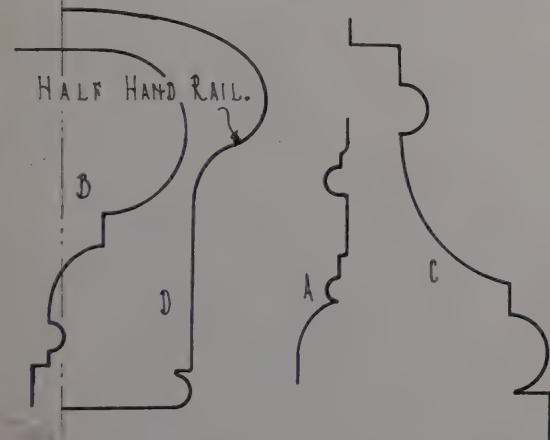
THE early carpenter-architects of Maine made up in the grace and delicacy of their designing for the extreme simplicity which the times and circumstances made necessary. This stairway and the door under it from the Littlefield house at Kennebunk, built in 1789, prove that considerable distinction in the way of design is attainable by use of very simple means. The door beneath the stairway, its elliptically shaped top supported upon pilasters, the spirited scroll of the stairway's skirt board, the ram's horn and goose neck of the handrail, and the half-handrail on the wall side of the stairs are all examples of excellent design. The newel is a copy of a Tuscan column, though more slender and having an Attic base.





### ELEVATION OF STAIRS.

RUN OF STAIRS.  
SCALE  $\frac{1}{4}'' = 1'-0''$ .



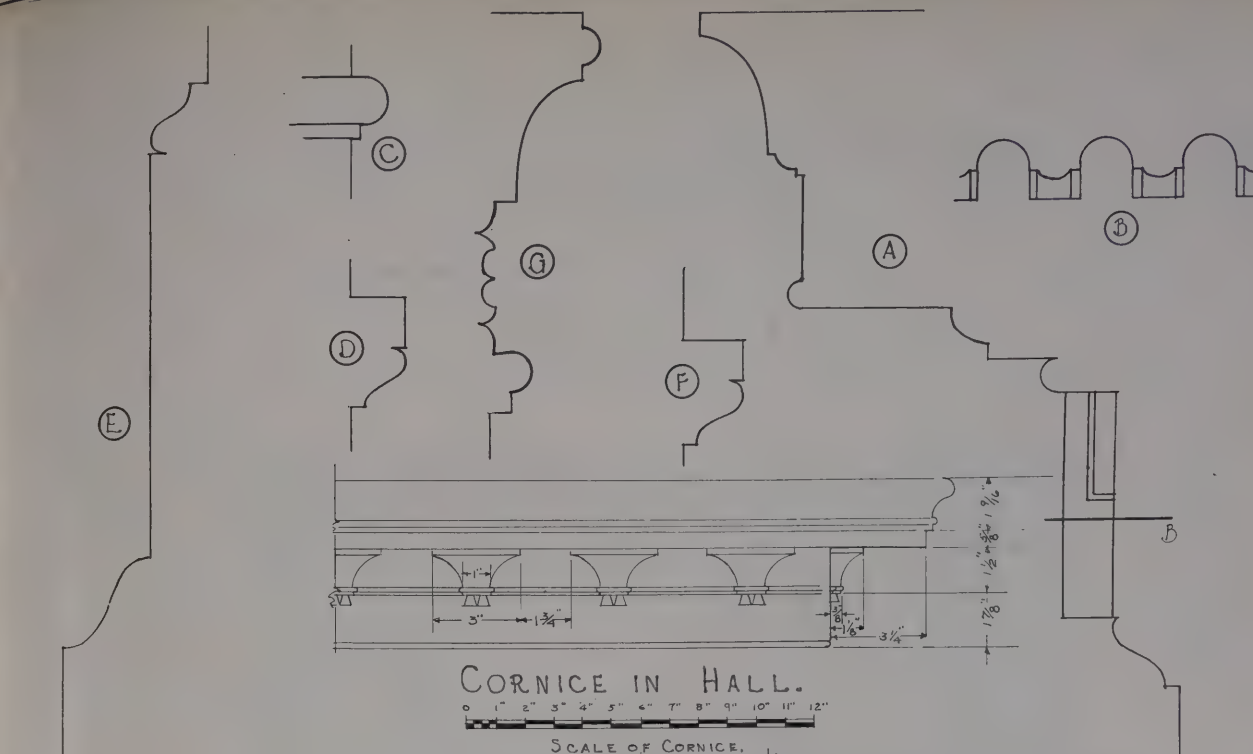
## FULL SIZE DETAILS OF MOULDINGS

TWO INCH SCALE DETAIL.

MAINE  
COLONIAL  
SERIES

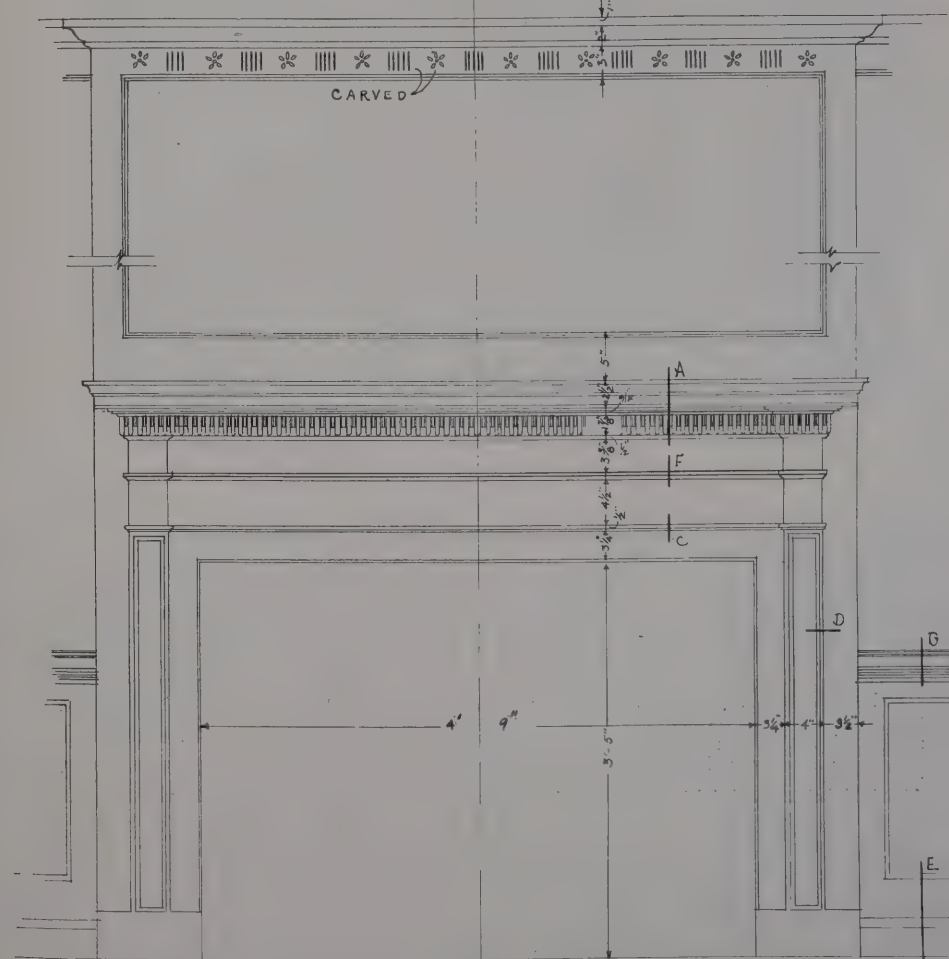
STAIRWAY OF THE LITTLEFIELD HOUSE  
BUILT IN 1789 KENNEBUNK MAINE.

MEASURED &  
DRAWN BY  
A. J. HARRISON



CORNICE IN HALL

SCALE OF CORNICE



ELEVATION.  
SCALE OF ELEVATION

MAINE  
COLONIAL  
SERIES

MANTEL IN THE JOHN HENRY HOUSE  
BUILT IN 1790 BATH, ME.

MEASURED AND  
DRAWN BY  
A. J. HARRIMAN.

# EARLY AMERICAN DETAILS

MEASURED AND DRAWN BY

A. J. HARRIMAN



MANTEL OF THE JOHN HENRY HOUSE, BATH, ME.

THE historic New England towns along or near the seacoast are rich in old houses, relics for the most part of palmy days near the close of the eighteenth or early in the nineteenth century. Such is the house at Bath, Me., built by John Henry, an eminent ship builder, in 1790. The craze of subsequent owners for "modernizing" has wrought considerable havoc with the gracefully designed woodwork, in which the original owner no doubt took great pride. All that still remains worthy of note are the cornice in the hall and the mantel of the living room. The changes, have not involved the spoiling of the carefully designed pilasters or the beautiful dentil course which supports the narrow mantel itself. The hall cornice, with its delicacy and simplicity of design, seems to have escaped intact.



# DECORATION & FURNITURE

## Furniture with Architecture

By ROGER WEARNE RAMSDELL and HAROLD DONALDSON EBERLEIN

All Illustrations by Courtesy of Victoria and Albert Museum

FURNITURE is the indispensable complement of architecture. When the furniture of an interior is right, the value of the architecture is enhanced by it; when it is wrong, the effect of the architecture is marred. As conscious of this truth as architects ought to be, and as keenly conscious of it as many of them unquestionably are,—and to the great advantage of their work,—there are many more who ignore the relationship, in fact if not in principle, to the detriment of their own labor and the misfortune of their clients. It is not always either necessary or advisable, perhaps, for the architect to enter into furnishing minutiae to the same extent as the Adam brothers often did, but there is a happy medium between an overly meticulous solicitude and the seeming indifference of those who conscientiously finish structures and then let the furnishings shift for themselves, often spoiling the work.

The tender mercies of clients in this particular are not to be too much trusted, even when the clients themselves are evidently interested and actuated by the best possible intent; neither is too much confidence to be reposed in the knowledge and judgment of the interior decorator until the architect is fully assured of entire competence in that quarter. While there are many interior decorators who are thoroughly able to undertake and execute successfully any commission that may be entrusted to them,—

many, indeed, who can and often do most acceptably carry out certain architectural reconstructions in rooms as a preliminary to the further stages of their tasks,—there are too many who are altogether obsessed by passing fads, too many whose chief qualification consists in a certain flair for amiable arrangements in some one mode for which they have a fancy, along with a facility in disposing upholstery fabrics. Some, too, are merely drapers and purveyors of pretty knickknacks and not interior decorators at all, and it is unfortunate that they should masquerade under the name of interior decorator. It is unfair to those who have devoted time, study and capacity to the mastery of an exacting profession that demands all the skill, culture and knowledge that they can put into it. This may seem a severe arraignment of a considerable number of those who assume the responsibility of appointing interiors, but that the arraignment is deserved is entirely true.

In the majority of cases the architect has neither the time nor the intimate knowledge of the hundred and one petty details that enter into consideration to undertake the complete execution of a furnishing scheme. The ideal arrangement, therefore, is one of amicable and helpful collaboration between the architect and a capable interior decorator. And the really capable interior decorator, man or woman as the case may be, can often give constructive criti-



Walnut Chest, Northern France, about 1500

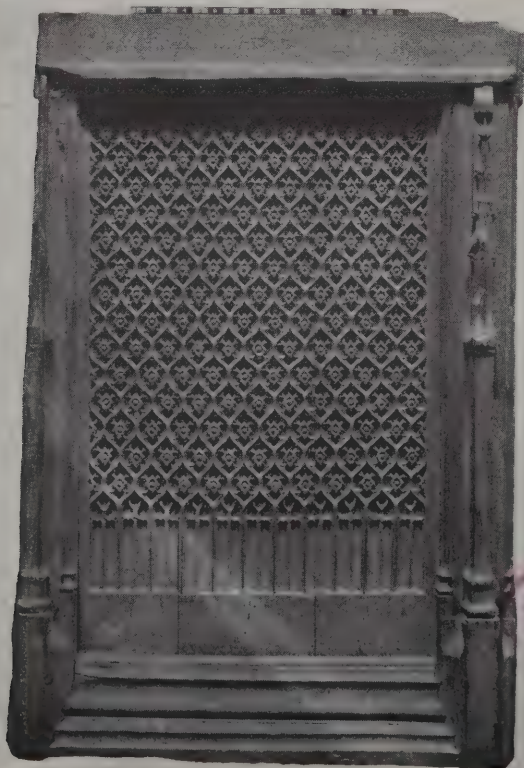




Inlaid Room, Sizergh Castle, Westmoreland, about 1575

cisms, and make suggestions that the architect will do well to heed. From a harmonious relation of this sort the best results may confidently be expected. In view of the fact that the majority of clients need counsel and guidance in the matter of furnishing and arrangement, and also in view of the fact that the architect is vitally interested in securing the collaboration of an interior decorator who is properly qualified and in sympathy with the commission, it is advisable that he maintain at least an advisory attitude and oversight of what is going on. In order to take such an attitude, however, it is necessary for the

architect to know enough to give direction to the course of development in the rooms he has designed. Obtaining proper furnishing is a matter of principle; it is not a matter of slavishly observing a code of hard and fast rules. There is unlimited flexibility of application so long as the spirit of the underlying principles is faithfully adhered to. To arrive at these fundamental principles and truths in respect of furniture and furnishing, in the most intelligent way, it is well to go back to beginnings and inquire just what is the nature of each of the elements and factors with which we are likely to be found dealing.



Back of Late 15th Century French Oak Seat



Oak Cupboard from Burwarton, Salop, about 1500





Paneled Room from House at Waltham Abbey, about 1535

In the first place, what is furniture? It is not enough to say that furniture is detached architecture, or that it began as architecture, and then gradually became detached like a barnacle loosened from its bed, and finally evolved to a fully mobile and independent stage as we have it at present. While there is a large measure of truth in such a statement of the genesis of furniture, it is not the entire truth. There is something more to be said, and without taking due account of it we should have a one-sided and very imperfect view of the evolution of modern furniture. As we know it, furniture comes of a dual origin. Much of it did, indeed, begin as part and parcel of architecture. Fixed at first, by gradual stages, it became detached and movable although cumbersome, still retaining purely architectural

structure and ornament. Eventually it became lighter in structure and more mobile, and its lines and embellishment were less obviously inherited from its architectural parent, although the architectural principle was never lost sight of nor set aside. Even in such extreme perversions as arose from the Austrian "Secession" movement and "Art Nouveau," or in the still later freaks shown at last year's modernist exhibition in Paris, some vestige of architectural descent can still be dimly traced. On the other hand, there was an origin that was not architectural. Ever since the earliest dawn of civilization, man has needed something to put things in, something to hang things on, and something to sit upon, the indispensable implements and accessories of his daily work. Necessity was the mother of invention, and hence, before he



15th Century English Oak Reading Desk



Detail, 15th Century Walnut Chest



was capable of anything more than the most rudimentary achievements in architecture, he contrived a number of boxes, racks, stools and primitive tables to meet his simple but compelling requirements. From these, in due course of time, there developed a great diversity of movable seats, tables, chests and boxes not having any particular relation to architecture. Mobility rather than fixity was the essential quality of such furniture. Articles of this description and derivation, in their turn, have contributed no small share to the ultimate sum total of mobiliary equipment. Furniture then, in the aggregate, is sprung from the union of these two primitive types,—architectural and non-architectural. In the course of thousands of years the two parent strains have become so blended and closely assimilated that the distinction is not always readily apparent; but it is there if we choose to look for it, and unless we take account of its existence we shall not have a perfectly clear understanding of furniture or the nature of the relative furnishing values which its use involves.

The materials of which furniture has been made from the earliest times are stone, wood and metal. The non-architectural furniture of primitive days was fashioned from wood. Later, as the arts developed, both wood and metal were used, with the occasional employment of ivory where great splendor was aimed at. The wood, metal and ivory furniture of the ancient Egyptians, Assyrians, Greeks and Romans achieved the utmost elegance and splendor. The bronze furniture in the museum at Naples, recovered from the ruins of Herculaneum and Pompeii, bears eloquent witness to the consummate art and skill brought to bear in its fashioning. But it is not with the non-architectural derivation of furniture that we are concerned; we must first inquire into the architectural derivation, which is important.

To go no further back in its history, stone furniture as part and parcel of architectural composition was employed by the Romans in the form of seats or benches, niches within which were placed ornaments or articles of utility put there for convenience and safe-keeping, and tables of various sorts. Architectural furniture of this sort was used both indoors and out. The tradition never died out in Italy, and during the Renaissance the *lavabo* built into the wall was an additional feature of combined utility and beauty. In the Gothic work of both France and England stone seats and niches of considerable variety were to be found not only in churches and monasteries but in castles as well. Wood, however, was a far more adaptable medium, and it is with the use of wood that the development of movable furniture begins. In churches, abbeys and monastic

houses, besides the choir stalls there were great presses or cupboards for books and vestments, fixed benches, and aumbries or small cupboards for vessels and food. In monastic libraries there were writing desks and lecterns, built in as part of the fixed equipment, as well as presses for manuscripts. In castles there were the canopied seats of state and great bedsteads of permanent construction, built in as part of the architectural equipment. The bedsteads of the Norman peasants, built into the paneling of their

houses, furnish an instance of the survival of ancient Gothic tradition.

Then came a change. The smaller items of attached and stationary furniture, and after them the larger, by degrees became disengaged or detached from their moorings and could be moved from place to place if occasion arose. In addition,

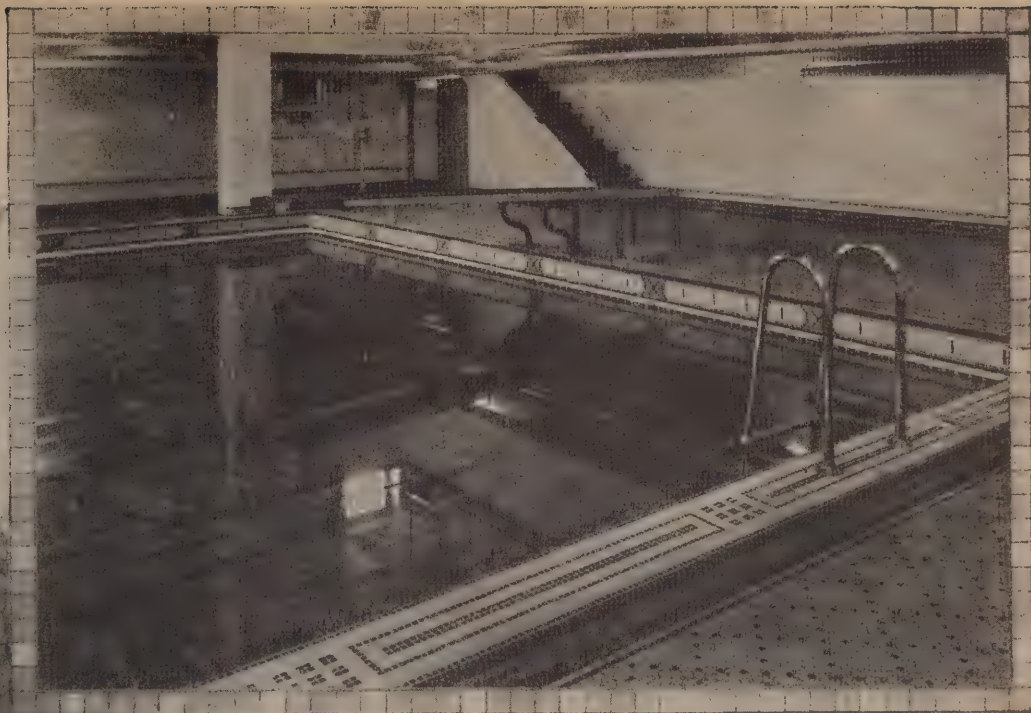


Early 16th Century English Oak Table

by way of stimulus to the movement, there came use of the chests that had been movable from the beginning of history. But the detached furnishings were plainly regarded by their makers and owners as items of movable architecture, for in structure and ornament they were identical with the fixed backgrounds from which they had just emerged. No better proof of this can be desired than that afforded by these illustrations, which show the analogy. The "inlaid room" from Sizergh Castle, constructed as we see it illustrated here about 1575, has its great bedstead identical in material and pattern with the paneling, while the other pieces of furniture, few in number and heavy in scale, bear a strong architectural family resemblance. For contrast and color, there were the rich hangings, the plaster enrichment of the ceiling, and the leaded glazing of the windows with spots of bright-hued glass in the heraldic blazoning. The appointment of the room illustrates a contemporary ideal and embodies a principle.

Apart from the fixed embellishment of the paneling, the plaster and the glazing, it is plainly the comparatively few and important pieces, closely related to the fixed architectural setting, that make the room and give it its character. They constitute what might be called the strategic points of furnishing. Whatever other lesser elements might be introduced, they could not materially either alter or spoil the fundamental excellence of the room. The principle holds good whether it be in a room of the general character here shown or a room of totally different derivation in the matter of style. Coherence of line and harmony of material,—harmony of contrast or harmony of analogy,—between the fixed background and the chief articles of furniture that dominate the situation may be depended upon to produce sound and satisfactory results. So long as the architect is assured of these factors, his mind may be at ease.





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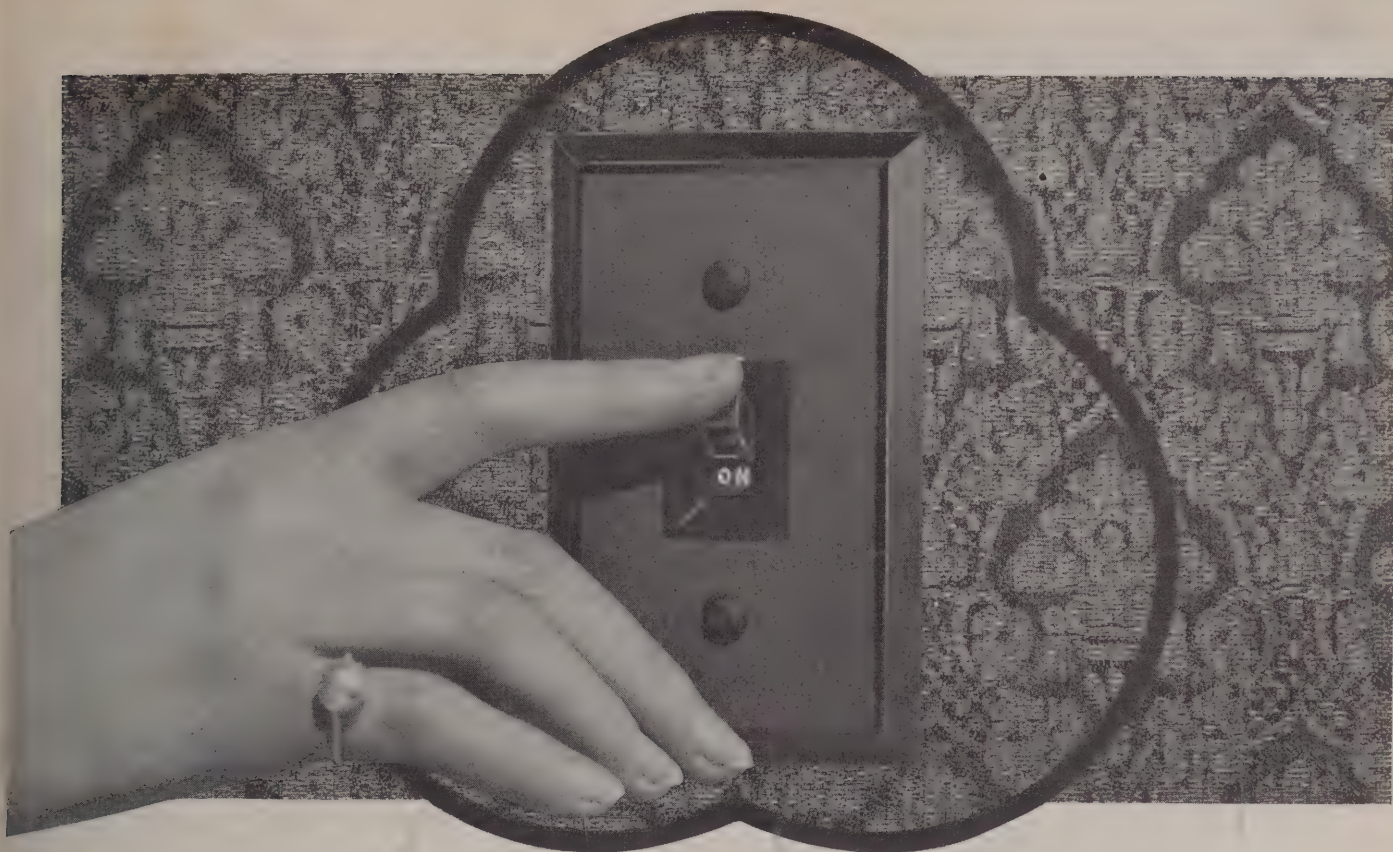
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An outstanding advantage of Bakelite plates is the fact that their color and lustrous finish will last. Frequent handling does not stain them, nor dim their lustre. Exposure in damp climates does not corrode them. Walls near them are free from the unsightly marks so often made by cleaning cloths and pastes.

An additional advantage is the fact that Bakelite is an insulator, removing all chance of static shocks when operating a switch. Bakelite switch and outlet plates are made by several leading wiring device manufacturers, all of whom mark their plates with the trademark **BAKELITE**.

Should you request it, we will see that samples are shown to you.

### **BAKELITE CORPORATION**

247 Park Ave., New York, N.Y. Chicago Office, 636 W. 22nd St.  
**BAKELITE CORPORATION OF CANADA, LTD.,** 163 Dufferin St., Toronto, Ont.

# BAKELITE

REGISTERED

U. S. PAT. OFF.



## THE MATERIAL OF A THOUSAND USES

"The registered Trade Mark and Symbol shown above may be used only on products made from materials manufactured by Bakelite Corporation. Under the capital "B" is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."





Views of part of the interior marble used for the Belknap Hardware Company building, Louisville, Ky. Graham, Anderson, Probst and White, Architects, Chicago, Ill.



# For Interiors of CLEAN BEAUTY

## FOREIGN MARBLES

Our exceptionally favorable relations with leading foreign quarries and our huge, modern mill facilities enable us to make very attractive quotations on finest foreign marbles.

Appalachian Tennessee Marble is not only used for the interiors of great banking rooms, hotel lobbies and other interiors of regal beauty.

It is used for *any* interiors where long wear and *absolute cleanliness* are of first importance.

For lavatories, etc., it is ideal because its beauty is unaffected by exposure to oils, dyestuffs and other liquids.

By actual test made by T. Nelson Dale, Retired Geologist, U.S. Geological Survey, its average absorption is but 0.06 per cent, making it practically im-

pervious in resisting stains of any kind.

It is especially easy and quick to clean. In fact, careful data, kept by huge department stores having Appalachian interiors and floors, shows Appalachian Marble substantially reduces cleaning costs.

An interior of Appalachian Tennessee Marble will endure as long as the building of which it is a part, and will *never* cost one penny for waxing or other refinishing.

Architects are invited to send up plans and specifications for prompt, accurate cost estimates.

# APPALACHIAN MARBLE COMPANY

Knoxville  
Tennessee,



*A Form  
for  
every  
pile—  
A Pile  
for  
every  
purpose*



# RAYMOND

means, to most engineers, primarily the standard concrete piles that are poured into tapering, spirally reinforced steel shells that are left in the ground—but we install many other types of piles and will be glad to supply full information thereon.

**RAYMOND CONCRETE PILE COMPANY**  
NEW YORK: 140 Cedar St. CHICAGO: 111 West Monroe St.  
MONTREAL, CANADA

Branch Offices in Principal Cities





Made in three types and fourteen sizes to heat 200 to 2600 gallons of water per hour

# KEWANEE

## Water Heating Garbage Burners

### Make Fuel of Garbage and Rubbish

Every time the garbage man calls he carts away a lot of good fuel—and leaves a host of foul odors behind. Garbage and rubbish contain many heat units. In a Kewanee Water Heating Garbage Burner all this waste matter can be turned into fuel and used for heating water.

The By-Pass (a patented feature)

makes it possible to burn garbage without any odor, by preventing the moist matter from smothering the fire.

Built of the same fine materials (steel and rivets), by the same skilled workmen, and in the same faultless manner as Kewanee Boilers. Hence, you are assured long service free from up-keep costs.



## KEWANEE BOILER COMPANY

### KEWANEE, ILLINOIS

Steel Heating Boilers, Radiators, Tanks and Water Heating Garbage Burners

#### BRANCHES

ATLANTA, 1522 Candler Bldg.  
BOSTON, 1140 Little Bldg., 90 Boylston St.  
CHARLOTTE, N. C., 605 Johnston Bldg.  
CHATTANOOGA, 1104 James Bldg.  
CHICAGO, 822 W. Washington Blvd.  
CINCINNATI, P. O. Box 75  
CLEVELAND, Superior Ave., N.E., at 17th St.  
DALLAS, 1903-4 Santa Fe Bldg.  
DENVER, 1226-28 California St.  
DES MOINES, 707 Hubbell Bldg.

DETROIT, 2051 W. La Fayette Blvd.  
EL PASO, 1520 N. Campbell St.  
GRAND RAPIDS, 402 1/2 Mich. Trust Bldg.  
INDIANAPOLIS, 221 Ind. Term. Warehouse  
KANSAS CITY, 2014 Wyandotte St.  
LOS ANGELES, 306 Crocker St.  
MEMPHIS, 1812 Exchange Bldg.  
MILWAUKEE, 440 Barclay St.  
MINNEAPOLIS, 708 Builders Exchange Bldg.

NEW ORLEANS, 1018 New Orleans Bk. Bldg.  
NEW YORK, 570 Seventh Ave.  
PHILADELPHIA, 806 Real Est. Trust Bldg.  
PITTSBURGH, Empire Bldg.  
ST. LOUIS, 4200 Forest Park Blvd.  
SALT LAKE CITY, 204 Dooley Bldg.  
SAN ANTONIO, 502 Calcasieu Bldg.  
SAN FRANCISCO, 635 Mission St.  
SEATTLE, 326 Columbia St.  
TOLEDO, 415 13th St.

CANADIAN REPRESENTATIVES: Dominion Kewanee Boiler Co., Ltd., 66 Richmond St., East, Toronto 2, Ontario



# Plasta-Saver

*Lowers the Cost of*

## STEEL-STRENGTHENED PLASTERING



*T*HE advantages of metal lath construction are so obvious that the architect will find satisfaction in knowing that the  $\frac{1}{8}$ " flat rib North Western PLASTA-SAVER Metal Lath so lowers its cost that he can use it in even his low priced work.

*Shall we send your specification writer full particulars and samples of PLASTA-SAVER?*

**NORTH WESTERN EXPANDED METAL CO.**

1234 Old Colony Bldg., CHICAGO

**NORTH WESTERN**  
*Plasta-Saver*  
**METAL LATH**



Residence of L. L. Dougan, Architect, Portland, Ore. Milcor "Expansion" Casings for interior and exterior door-and-window trim.



## It Pays . . . . to build this way!

The foreman who superintended the installation of Milcor "Expansion" Casings in the home shown above, was surprised to find that this superior type of door-and-window-trim actually showed a big saving. He wrote us a mighty enthusiastic letter — here is part of it:

"Comparative costs of wood casings and Milcor "Expansion" Metal Casings showed that a considerable saving resulted wherever Milcor Casings are used. Wood here is very cheap (in Oregon). In other sections where wood is expensive, the saving would be still greater".

THE fine thing about these Milcor Products is that they not only improve the appearance of any home or building, but they also insure permanence and firesafety—all at a price that will satisfy the most conservative builder.

People are inclined to balk at much of this talk about quality construction. It may be very fine, they think, but they can't afford it! Here are products, however, that will save money not only in first cost but principally in maintenance expense. It is no longer a question of whether the builder can afford these modern Milcor products, but rather, *can he afford to build without them!*

By all means investigate Milcor "Expansion" Casings—get samples and prices; install them on one job; then you'll appreciate the reasons for their success and growing popularity.

Investigate also the many other products made by Milcor—Stay-Rib Metal Lath, Netmesh Metal Lath, "Expansion" Corner Bead, Base Screed, Concealed Metal Picture Molding, Metal Tile Roofing, Architectural Sheet Metal, etc. Getting acquainted will cost you nothing and will obligate you not one bit.

Would you like to have a copy of our now-famous book on "Modern Modes in Better Plastering" and "The Milcor Manual", a technical data book on Milcor Metal Lath and allied products? We'll gladly send you both. Yours for the asking. The coupon, a Post Card, or a letter will do.

Member of  
National Council  
for Better Plastering



Member of  
Associated Metal Lath  
Manufacturers

MILWAUKEE CORRUGATING COMPANY, Milwaukee, Wisconsin  
Chicago, Ill. Kansas City, Mo. La Crosse, Wis.

# MILCOR

Metal Lath and Roofing  
in Steel, Zinc,  
Copper and



MILWAUKEE CORRUGATING CO., Milwaukee, Wisconsin

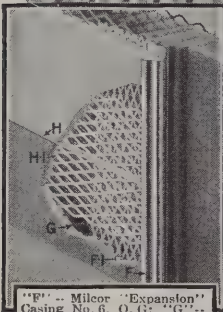
Please send "Modern Modes in Better Plastering" and  
"The Milcor Manual", without cost or obligation.

INGOT IRON

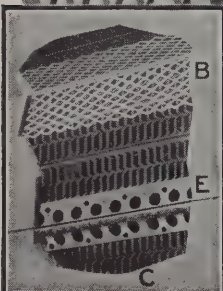
Name.....Address.....



"A" -- Milcor "Expansion" Corner Bead No. 1; "C" Milcor Stay-Rib Metal Lath No. 1 -- a great plaster saver and the backbone of Better Plastering



"H" -- Milcor "Expansion" Base Screed No. 3; "G" -- Milcor Netmesh Metal Lath; "H" -- Milcor "Expansion" Base Screed No. 3; "F" and "H" -- Wing of Casings and Screed, respectively



"B" -- Milcor "Expansion" Corner Bead No. 2; "C" -- Milcor Stay-Rib Metal Lath No. 1; "B" -- Milcor Concealed Metal Picture Molding

MODERN  
MODES

THE  
MILCOR  
MANUAL





Vault and roof dome of Central Hall of the National Academy of Sciences, Washington, D. C. Guastavino's tile construction with soffit course of Akoustolith sound absorbing artificial stone. Bertram G. Goodhue, Architect

## Perfect Acoustic Qualities Can Now Be Predetermined

It is no longer necessary to depend on accident for perfect acoustics.

Akoustolith, the R. Guastavino Company's sound absorbing tile, is used to get perfect acoustic qualities, combined with beautiful architectural effects.

Akoustolith has six-fold the absorbing

power of any existing masonry construction.

It can be had in a variety of pleasing colors. It is extremely light and can, therefore, be used where heavier material would be impractical.

Akoustolith answers the problem of how to build vaults with no unpleasant reverberations.

### R. GUASTAVINO COMPANY

1133 Broadway, New York City

40 Court Street, Boston, Mass.

R. Guastavino Company of Canada, New Berks Bldg., Montreal





## *An Atmosphere of Good Taste*

HOME OF WM. A.  
SAILER, HIGHLAND  
PARK, DALLAS

Fooshee & Cheek,  
Architects

Harry J. Curtis, Builder

Acme Brick do more than give constant pleasure to the owner—they surround him with an atmosphere of good taste. This interesting and pleasing cottage-type home is faced with Acme Perla Light Gray wire-cut weatherproof Face Brick.

Thirty-five years in the art of brick-making and ten Acme owned-and-operated plants enable us to offer—"a brick for every type, a color for every color scheme."



**Acme Brick Company**  
*Manufacturers of the Products We Sell*

### *Plants—Owned and Operated*

Bennetts and Denton,  
Texas; Ft. Smith, Little  
Rock, Malvern, Perla  
and Pine Bluff, Arkansas;  
Cleveland, Oklahoma  
City and Tulsa, Okla-  
homa.

# ACME BRICK

Offices and Display Rooms  
*(Where Your Color Schemes Can Be Solved)*

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Amarillo, Texas  
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Fort Worth, Texas  
Galveston, Texas

Houston, Texas  
Lake Charles, La.  
Little Rock, Arkansas  
Memphis, Tennessee

New Orleans, La.  
Oklahoma City, Okla.  
Port Arthur, Texas  
San Antonio, Texas


Shreveport, La.  
Tulsa, Oklahoma  
Waco, Texas  
Wichita Falls, Texas

ANNUAL CAPACITY 170 MILLION-FACE BRICK





SUMMER-GREYS  
*Worthy to rank with "Bradford Reds"*



THE expanses of wall in many large buildings such as Churches, Community and Memorial Buildings depend for their architectural character largely upon the brick of which they are built. Architects and builders value GREY because it possesses high color value, affords subtle play of light and shadow, and, particularly when used in large areas, assumes a richness and variety which lend character wholly apart from any ornament the walls may possess. SUMMER GREYS and BUFFS with their fine, rich color and interesting textures lend architectural dignity to any building in which they are used, and throw into bold relief any ornament the architect wishes to emphasize.

The unquestioned architectural merit of "SUMMER GREYS"—their beauty, color, durability and excellence in every small detail—constitute compelling reasons why leading Architects find them the ideal Face Brick.

*Dry Press and Wirecut in all shades and textures.*

# HANLEY COMPANY, Inc.

## FACE BRICK

9 East 46th St., New York, N. Y.  
Bradford, Pa.  
*formerly*  
BRADFORD BRICK & TILE CO.  
Plants at Bradford, Lewis Run, Summerville, Pa.





Aymar Embury, II.  
Architect

# Common Brick gives Full Play to the Skill of the Architect

COMMON BRICK is "common" in the best sense of the word. It is a natural, native material — varying widely in shade and color.

Thus it lends itself readily to the creative imagination of the architect. Truly it is clay in the hands of the man who knows how to mold distinctive beauty.

Architects, themselves, have ushered in the new day in the use of Common

Brick. By developing a wide variety of appropriate bonds and patterns, and single-coat whitened effects for suitable types of architecture, they have rendered an outstanding service to home building America.

For Common Brick adds to brick's inherent advantages, a price saving which leaves a margin for those finishing touches desired by architect and owner.

## THE COMMON BRICK MANUFACTURERS' ASSOCIATION of AMERICA

### At Your Service

These District Association Offices and  
Brick Manufacturers Everywhere

Chicago . . . 614 Chamber of Commerce Bldg.  
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Hartford, Conn. . . . . 226 Pearl St.  
Los Angeles . . . . . 342 Douglas Bldg.  
New York City, 1710 Gr'd Cen. Term'l Bldg.  
Norfolk, Va. . . . . 112 West Plume St.  
Philadelphia . . . . . 303 City Centre Bldg.  
Portland, Ore. . . . . 906 Lewis Bldg.  
Salt Lake City . . . . . 301 Atlas Bldg.  
San Francisco . . . . . 932 Monadnock Bldg.  
Seattle, Wash. . . . . 913 Arctic Bldg.  
Springfield, Mass., 301 Tarbell-Watters Bldg.

2134 Guarantee Title Bldg.,  
Cleveland, Ohio

**BRICK**  
*forever*

### Brick Books for Your Use

"Skintled Brickwork" (15c) ☐  
"Brick, How to Build and Estimate"  
New Edition (25c) ☐  
"Hollow Walls of Brick"—FREE ☐  
Check above, and send for any or  
all of these books.



## AMERICA NEEDS MORE GARAGES IN HER CITIES



# Linked Together —offices and handy garage

*Baker Office Building Garage,  
Minneapolis, Minn.  
Larsen and McLaren,  
Architects  
Capacity - - - 275 Cars*

*d'Humy Motoramps enable patrons to drive to any floor without stopping or delay. No elevator costs for owners.*

**T**HAT the business man who drives downtown in the morning must find garage facilities admits no argument. Even before "no parking" ordinances outlawed it entirely, curb parking was so hazardous as to be forbidding. Downtown parking garages are a necessity in every city.

Talk it over with office building owners. They are vitally interested. They need convenient garages to protect the rental desirability of their office building properties. But you can go further and show them that a Parking Garage is in itself a most profitable property improvement—one that will pay probably a higher net return than any other building investment.

*Let our booklet "Building Garages for Profitable Operation" give you some leading information. Ask for new Edition "F."*



## RAMP BUILDINGS CORPORATION

21 East 40th Street

New York, N. Y.

GARAGE ENGINEERS

CONSULTANTS ON PROMOTION AND GARAGE OPERATION



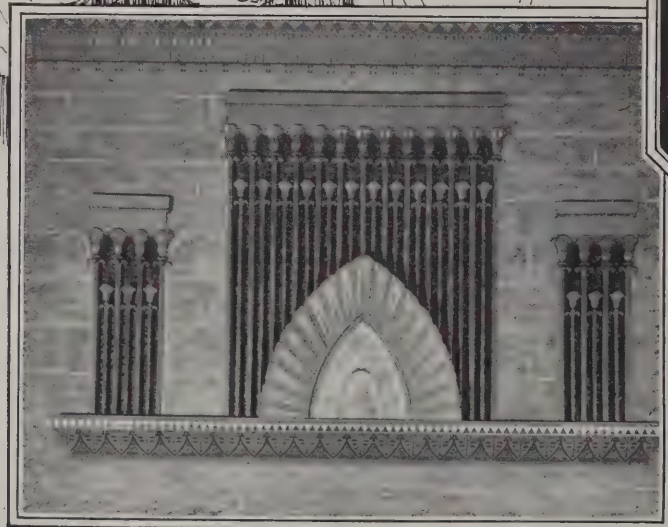
Interior views from the  
Dimond Theater, Oakland, Calif.

Architect

A. A. Cantin, San Francisco, Calif.

Plastering Contractor

P. H. Donnelly, Oakland, Calif.





# As far West as California ~

## Banner continues to be the dominating finish

To transport from Ohio, lime for finishing the walls of California's finest buildings costs much in the way of freight charges. Unless this added expense were warranted by the superior results achieved and the saving in labor and material, Banner Finishing Lime would not be used there.

In Oakland's newest theater, the interior walls are finished in the varied and beautiful texture or period finishes—with BANNER. The close-up on the left page il-

lustrates a rough texture executed with Banner Lime and sand—no gauging material was used. And yet the walls are stone-hard

with acoustical properties that greatly pleased the builders.

For the kind of walls that have as long a life as the building itself, giving the fullest measure of satisfactory service down through the

years, Banner Finishing Lime continues to be the dominating finish.

*Ask for more information.*

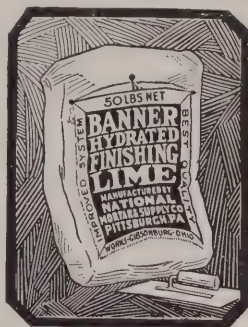
NATIONAL MORTAR & SUPPLY COMPANY

Federal Reserve Building, Pittsburgh, Pa.

# Banner

*"Easy to spread—  
hard to Beat!"*

Made in the world's largest plant devoted to the production of one brand—from an unequalled deposit of limestone in the well-known Ohio high magnesium field.



# MONOLITHIC CONCRETE



St. John's Episcopal Church, Los Angeles. Both exterior and interior are monolithic exposed concrete—except the facade, which is Tufa. Architectural ornaments were cast in place. Architects: Pierpont and Walter S. Davis, Los Angeles. Con-

tractors: Clinton Construction Co., San Francisco. New, illustrated booklet, "The Concrete of the Architect and Sculptor," will be sent promptly on request. In writing, please address the nearest office listed below.

## *Concrete for Permanence—and for Beauty*

### PORTLAND CEMENT ASSOCIATION

*A National Organization to Improve and Extend the Uses of Concrete*

Atlanta  
Birmingham  
Boston  
Chicago  
Columbus  
Dallas  
Denver  
Des Moines

Detroit  
Indianapolis  
Jacksonville

Kansas City  
Lincoln, Nebr.  
Los Angeles

Milwaukee  
Minneapolis  
Nashville

New Orleans  
New York  
Oklahoma City

Parkersburg  
Philadelphia  
Pittsburgh

Portland, Oreg.  
Richmond, Va.  
Salt Lake City  
San Francisco  
Seattle  
St. Louis  
Vancouver, B. C.  
Washington, D. C.



*zouri key-set store front construction*



*It is a substantial, straightforward, business-like store front, and has proven its value as a business getter*

## *Zouri Key-Set Store Front Construction*

Store front display is one form of advertising in which the actual goods constitute the main selling appeal. How important that they have every advantage of frame and setting!

A Zouri Store Front takes the place of those elements which enhance an advertisement on the printed page. Its substantial, easy lines and rugged copper construction speak quality. It is an evidence of liberal patronage; a standing testimonial that other satisfied customers have built up a flourishing business.

The architect, going further into the matter, finds underneath a unique construction that fulfills the promise of its surface beauty. Zouri's special safety features—Indirect Key Setting, Self-Adjusting Setting Block, Drawplate and Reinforcing Bracket—assure him of satisfaction during its installation and its life.

*Send for our detail sheets and data book on Zouri. They tell the story*



*The Zouri Key distributes pressure applied in setting to all points along the rigid copper moulding, greatly reducing the chance of breakage*

# **Zouri Drawn Metals Company**

Factory and General Offices

1608 East End Avenue, Chicago Heights, Illinois

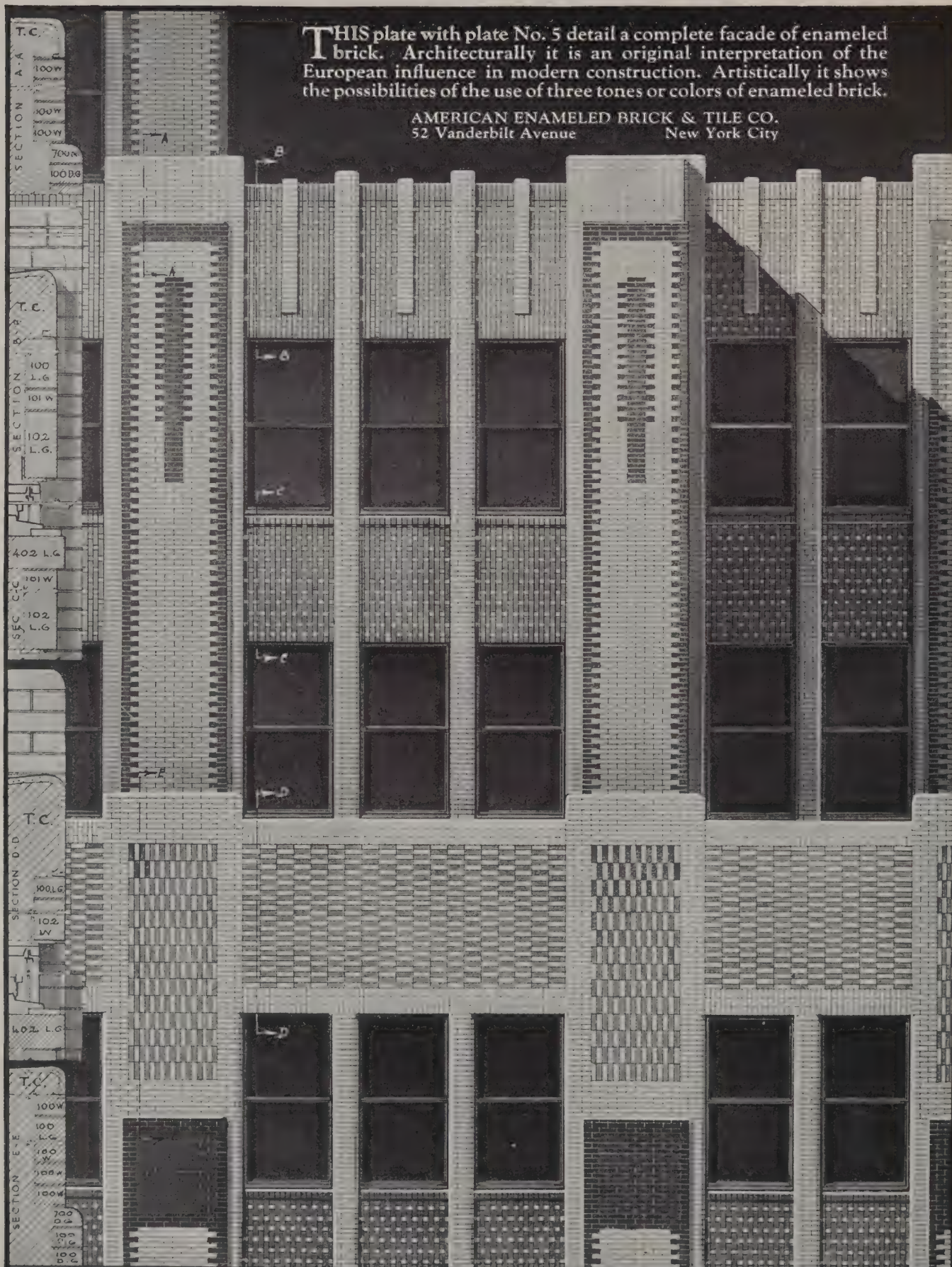
DISTRIBUTORS IN PRINCIPAL CITIES—NAMES ON REQUEST

*zouri key-set store front construction*



THIS plate with plate No. 5 detail a complete facade of enameled brick. Architecturally it is an original interpretation of the European influence in modern construction. Artistically it shows the possibilities of the use of three tones or colors of enameled brick.

AMERICAN ENAMELED BRICK & TILE CO.  
52 Vanderbilt Avenue New York City



# ENAMELED BRICK PLATE N° 6

SCALE 1" = 5'

W • WHITE L.G. • LIGHT GRAY D.G. • DARK GRAY

V. HAGOPIAN - DES. & DEL.

Copies of these plates in folio will be mailed upon request.



# Armstrong's Linoleum *for every floor in the house*

PLAIN

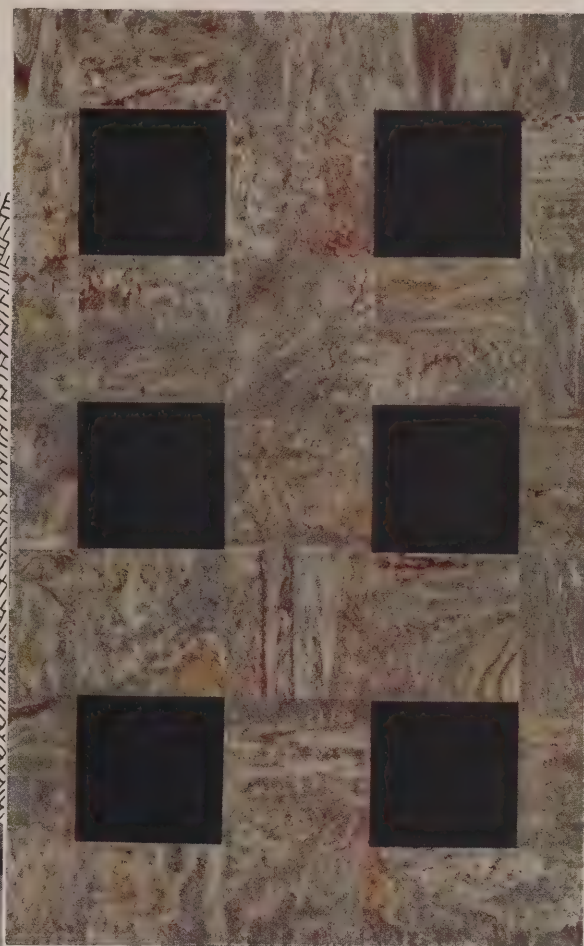
INLAID

JASPÉ

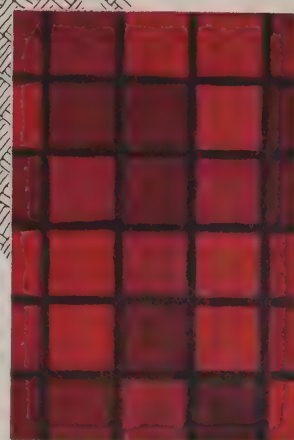
PRINTED

ARMSTRONG'S MARBLE INLAID No. 71  
Blocks are 6x6 inches

INSET MARBLE TILE INLAID No. M-63  
Blocks are 5 1/2 inches  
Interliners 1/2 inch wide



A corner in the architectural suite of Thornton and Roedecker, Indianapolis architects. The floor of Armstrong's Marble Inlaid No. 76 (12x12-inch blocks) was appropriately chosen.



HANDCRAFT TILE INLAID No. 3132  
Blocks are 3 inches wide

## Color, Pattern, Permanent Beauty—These Floors Have All—and More

THE HOME-PLANNER today looks to his architect for complete details of interiors.

Take, for example, the home of Spanish design that must be built at moderate cost. You specify wall-texture, the wrought-iron effects, and other notes that will help your client complete the decorative treatment. You can go a step further without increasing the cost—and perhaps even save money—by specifying floors that also contribute to the interior design.

In Armstrong's Linoleum you can get a design to fit almost any type of room. And these floors, cemented

in place over a layer of builders' deadening felt, are a structural part of the building. The first cost is the last cost.

When considering any decorative floor-treatment, you will find there is an Armstrong floor to complement ideally the other units you have in mind. Our Bureau of Interior Decoration will be glad to send you reproductions of the newest designs in linoleum floors, or even help you in planning your color schemes. You may find good use for some of the suggestions which our decorator will gladly send you, without obligation, upon request.

Look for the  
CIRCLE A  
trade-mark on  
the burlap back



Armstrong Cork Company, Linoleum Division, Lancaster, Pennsylvania



Entrance, The Roosevelt Hotel, New Orleans, La., Favrot & Livaudais, Architects. Lower story ashlar and ornamental enrichment in unglazed buff-grey Terra Cotta.

## *The Decorative Value of* **TERRA COTTA**

For lower story finish and effective enrichment of entrance features Terra Cotta offers you unsurpassed possibilities.

Messrs. Favrot & Livaudais demonstrate in this building the success attending a well chosen motif reflecting local atmosphere and beautifully detailed.

*Note:* Architects will also find many fine motifs in "Terra Cotta of the Italian Renaissance" published by this Society, \$3.00 per copy.

**NATIONAL TERRA COTTA SOCIETY**  
19 WEST 44th STREET  
NEW YORK, N.Y.





Pattern and color contrast are contributed by this new wide-spaced inset tile floor—  
GOLD SEAL INLAID, Belflor Pattern No. 2172/2. The 6-inch tiles are 18 inches apart.

## *New—a distinguished tile design by Nairn*

An inlaid linoleum which gives the appearance of a custom-laid floor while permitting the economy of the usual one-piece installation. This is the unique combination of advantages presented in the extra-wide spaced *Belflor Inset Tiles*—a new group of patterns exclusive with Nairn GOLD SEAL INLAIDS.

Here, indeed, is a valuable addition to the architect's resources for enhancing the individuality of an interior and providing a thoroughly permanent flooring at moderate cost.



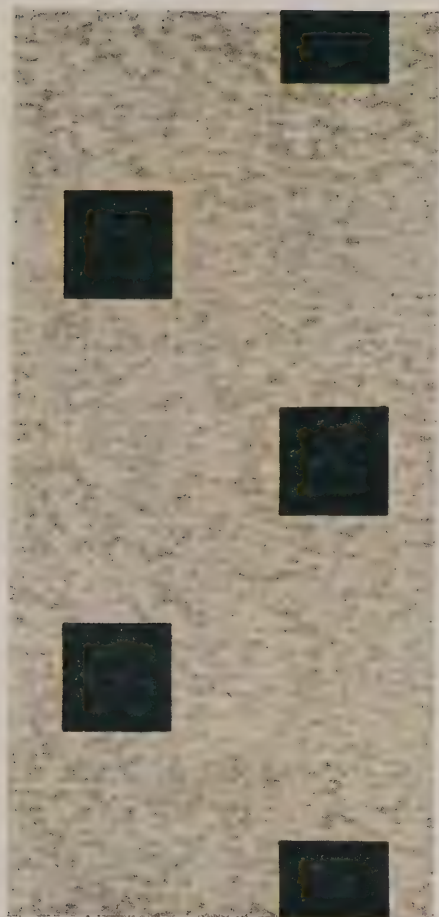
The interior above illustrates how the wide-spaced islands of color provide an interesting element of contrast absent in plain one-color flooring, yet avoid any sense of crowding or excessive regularity.

But it is not alone to residences that these new *Belflor Inset Tiles* are adapted. Their singular suitability for offices, stores, lobbies, club-rooms and similar interiors is self-evident.

Further descriptive data will be found on the back of this page.

(See next page)

# NAIRN GOLD SEAL INLAIDS



GOLD SEAL INLAID  
Belflor 4½" Inset Tile.  
Pattern No. 2171/2

## The New Belflor Inset Tiles

Here appears another of the new wide-spaced *Belflor Inset Tile* patterns. The pleasing open effect of this type of design comes from setting the tiles considerably further apart than in other inset patterns. This arrangement is found only in Nairn GOLD SEAL INLAIDS

Instead of the usual solid-color inset some of the patterns carry the distinctive *Belflor* mottled colorings in the tiles as well as in the field. Many different color combinations are offered in this new group of *Belflor* patterns. Lithographed reproductions of any of the patterns in actual size will be forwarded on request.

GOLD SEAL INLAID  
Belflor Inset Tile.  
Pattern No. 2168/1



## Recent Advances in Nairn Quality

Architects who have seen the new inlaid linoleums that are being produced by Nairn have noted several outstanding features. The highly perfected wax finish is unsurpassed. It protects the goods against dirt and cement stains during installation, thus insuring a clean, handsome-looking finished job. Both flexibility and resilience—factors which make for easy laying—represent the highest standards of linoleum manufacture.

These qualities, plus the Gold Seal Guarantee of Satisfaction, permit architects to specify Nairn GOLD SEAL INLAIDS with entire confidence that they are serving their clients' best interests.

### CONGOLEUM-NAIRN INC.

Philadelphia New York Boston Chicago Kansas City San Francisco  
Atlanta Minneapolis Cleveland Dallas Pittsburgh New Orleans

(See preceding page)



GOLD SEAL INLAID  
Belflor Pattern No. 7169/4

NAIRN  
GOLD SEAL INLAIDS





*Hotel Statler, Boston, Mass., 1300 rooms, 1300 baths.*

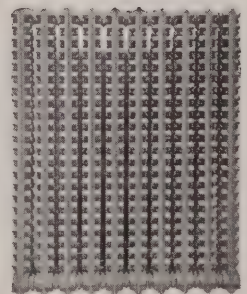
Architect, Geo. B. Post & Son; Consulting Engineers, Tenny & Ohmes; Electrical Engineer, Karr Parker; Heating Contractors, J. W. Danforth Co.; Blower Company, B. F. Sturtevant Co.

## *In the newest Statler Hotel—* VENTO CAST IRON HEATERS

In the new Hotel Statler in Boston, Vento Cast Iron Heaters will furnish perfect warmth.

Vento was chosen for this installation because under every kind of test Vento Heaters proved so dependable. They are becoming more and more popular because they bring so many advantages and yet cost less. They are permanently tight—do not wear out, do not leak—and they withstand all the unusual conditions found in heating and ventilating, cooling, air washing, humidifying and drying processes.

We shall be glad to send you our "Engineers' Data Book on Vento," in which are tables showing the results of the most thorough tests ever applied to Blast Heaters.



A typical stack  
of Vento Cast Iron  
Heaters

## AMERICAN RADIATOR COMPANY

Showrooms and sales offices: New York, Boston, Providence, New Haven, Newark, Philadelphia, Baltimore, Washington, Richmond, Buffalo, Pittsburgh, Cleveland, Detroit, Cincinnati, Atlanta, Chicago, Milwaukee, Indianapolis, St. Louis, St. Paul, Minneapolis, Omaha, Kansas City, Denver, San Francisco, Los Angeles, Seattle, Toronto, London, Paris, Milan, Brussels, Berlin

Makers of IDEAL BOILERS and AMERICAN RADIATORS and other products for heating, ventilating and refrigerating

# Interlocking—

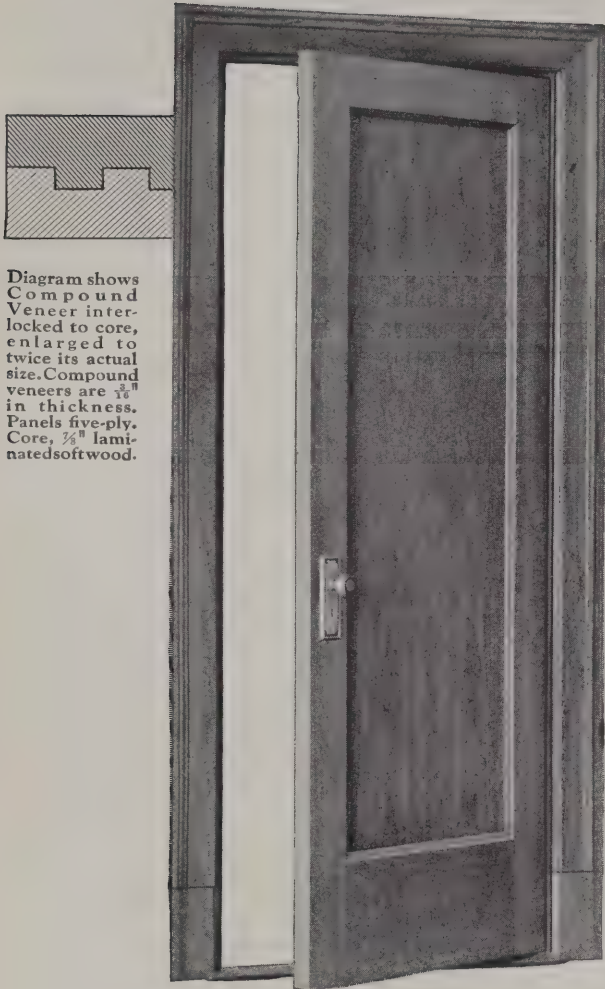


Diagram shows Compound Veneer interlocked to core, enlarged to twice its actual size. Compound veneers are  $\frac{1}{8}$ " in thickness. Panels five-ply. Core,  $\frac{3}{4}$ " laminated softwood.

## Compound's Source of Strength

The veneers of Compound Doors are compounded to the core by tongue-and-groove construction, a unique union which has two distinct advantages over the ordinary face-to-face joint:

1. Gluing surface is doubled.
2. Resistance is also increased by the shearing pull made necessary on surfaces A and B, parallel to the strain that is tending to pull veneer and core apart.

This results in a very definite increase in COMPOUND'S strength over the usual method of applying veneer flat. What do you figure the exact increase to be? We'd like to have your answer.

Send for more detailed information, and sample of Compound construction.

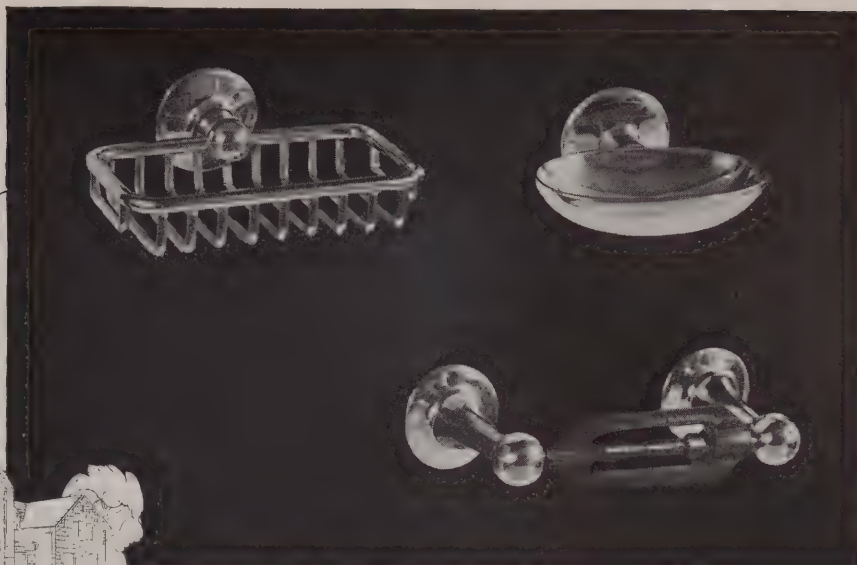
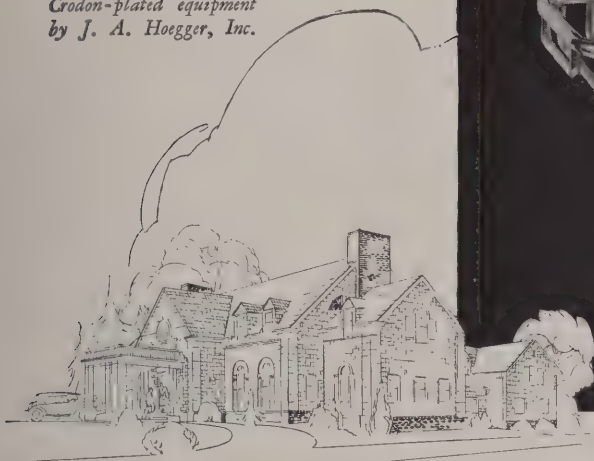
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*Compound*  
VENEERED DOORS

MADE BY AMERICA'S OLDEST VENEERED DOOR SPECIALISTS



*The Elizabeth Town and Country Club, Elizabeth, New Jersey. Clifford C. Wendehack, Architect. Crodon-plated equipment by J. A. Hoegger, Inc.*



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### *Architect and House Committee Agree on Crodon Finish*

IN the new Elizabeth Town and Country Club CRODON has been specified as the finish for all of the exposed metal fixtures throughout the building.

By this means all maintenance charges for metal polishing as well as future assessments for the replacement of worn fixtures, have been eliminated. For CRODON will last as long as the building itself.

CRODON is a chromium electro-plate with a brilliant, mirror-like lustre. Used as the standard finish for many metal products of quality, its unusual features have brought it general recognition.

Even in salt atmosphere CRODON surfaces will never tarnish or peel.

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Applied Only to Quality Products*



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H. P. Knowles, Architect

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1751 Peoples Life Building  
CHICAGO







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The sun room ceiling streaked and discolored! The stair well and other portions of the house, cracked—disfigured. Nor is it the plasterer's fault. He did his best with the materials which were specified.

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Edw. F. Fanning, Architect, New York.

**T**HE New Home of the Knights of Columbus adds another building to the growing list of conspicuous structures in New York City and vicinity faced with beautiful "Greendales."

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Composed of imperishable minerals that successfully defy frost, heat, rain and snow. Ideal for roof gardens, porches, roofs used for recreation, etc.

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A resilient tile floor of unusually durable texture. Green, red and brown tiles afford almost any combination desired.

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Look for this label on the face of all Blabon's Linoleum.



## Specify these beautiful wear-resisting floors!

Consider the smooth, sanitary Blabon floor of Plain Linoleum in this room of the State Capitol of Minnesota. Its waxed and polished surface is pleasing to the eye. Its resiliency makes it comfortable to walk upon; it deadens the sound of moving feet and chairs. It is easy to keep clean, and economical to maintain. In fact, this Blabon floor is ideal for such a room in this substantial, imposing building.

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*Quality from  
Stone to Finish*

In this age of hustle and bustle—when speed counts—the building trade demands even *more* than quality in building materials.

A quick, easy and convenient way of identifying this quality is also wanted. There is no time for wondering, investigating or guessing.

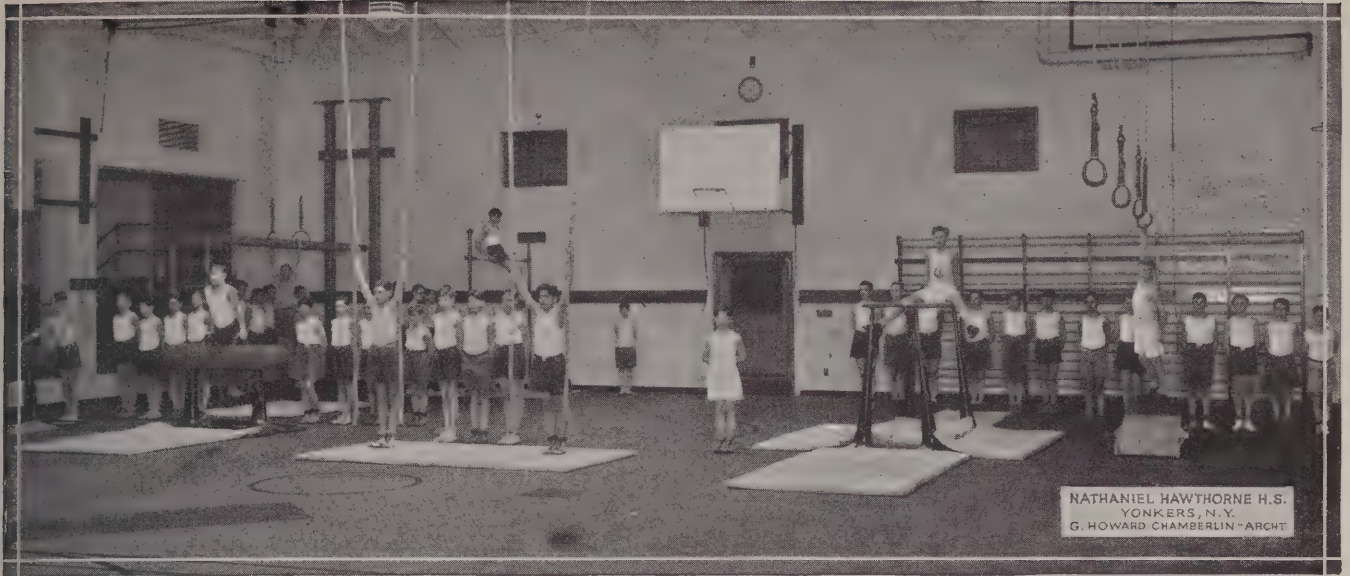
For this reason the adoption of blue bags for our brands of finishing and building hydrated has met with enthusiastic approval.

It is now possible to pick our brands of finish out as easily and as quickly as pointing your finger. The distinctive blue bag positively identifies our brands. No mixups, mistakes or confusion. The blue bag means quality when it's filled with Finishing Hydrated Lime.

The Woodville Lime Products Co.  
Toledo, Ohio

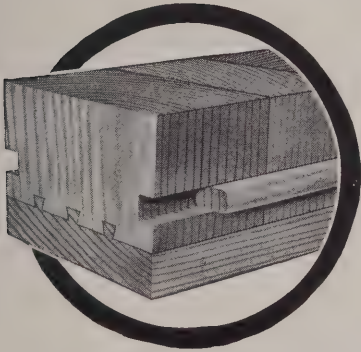
**WHITE ENAMEL ~ GOLD MEDAL  
AND WHITE LILY  
FINISHING ~ HYDRATED ~ LIME**





*The gymnasiums and shops of the Roosevelt and Hawthorne Schools and the gymnasium of the Franklin School, all at Yonkers, N. Y., have been floored with Bloxonend. G. Howard Chamberlin, Architect.*

## A Wood Flooring that cannot splinter or sliver



*Bloxonend comes in 8 ft. lengths with the Southern Pine blocks dovetailed endwise onto baseboards. Laid directly over the old or new concrete or wood floors. Sleepers unnecessary.*

A butcher's block cannot splinter—neither can a BLOXONEND floor. In one respect both are identical—the tough end grain of the wood forms the wearing surface.

BLOXONEND is the only wood flooring adaptable to gymnasium use that is splinter and sliver proof. This advantage alone has gained for BLOXONEND the approval of many architects and physical directors who have observed the seriousness of those injuries to players caused by splintered-slivered floors.

BLOXONEND is a resilient floor. It is bright, clean and attractive, affords a firm, safe foothold, stays smooth and is far more durable than the ordinary types of wood flooring. Prominent architects specify it extensively for gymnasiums, shops and school corridors.

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# A well known architect has this to say about Coldak Electric Refrigeration . . .

GEORGE NELSON JACOBS  
ARCHITECT & ENGINEER  
9 BOSWORTH STREET, BOSTON, MASS.

May 24, 1926.

Coldak Corp. of N. E.  
889 Boylston Street,  
Boston, Mass.

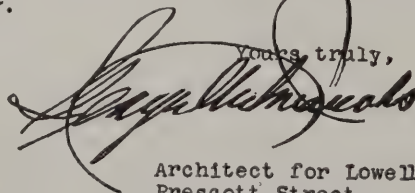
Gentlemen:

After investigating the various refrigerating systems for apartment houses, I decided on Coldak as being the most satisfactory for Lowell Manor. Many of the suites are occupied by the students and these suites are vacant during the summer.

With Coldak, it is possible to shut off the unused refrigerators and shift the load to one machine, cutting down materially on the operating expense.

No attention is required other than oiling the motor once in three or four months. The system has been in operation for several months and it has proven most satisfactory.

I cannot speak too highly of Coldak and I should be glad to answer any inquiry.

Yours truly,  


Architect for Lowell Manor  
Prescott Street,  
Cambridge, Mass.





# "Shut off the unoccupied apartments ... shift the load to one machine"

## Coldak is the only system of Electric Refrigeration that has this advantage

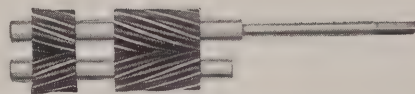
IN the Lowell Manor there are 80 apartments. All of them get perfect electric refrigeration from 4 Coldak machines, installed as a central plant in the basement. The machines are connected in multiple. When the load permits, three machines can be shut off and *one* machine does all the work. This is made possible by the Coldak "open circulating" system. It is an exclusive Coldak feature. No other system of electric refrigeration has it!

Coldak supplies all the apartments with the same automatic electric refrigeration they would get with a separate machine in each apartment. But it has this great advantage—Coldak does the job from *one central plant*. There is no machinery, no servicing in the living quarters. One Coldak machine supplies as many as 25 apartments. Fifty apartments need only two machines, 75 apartments 3 machines—and thus the system can be expanded indefinitely.

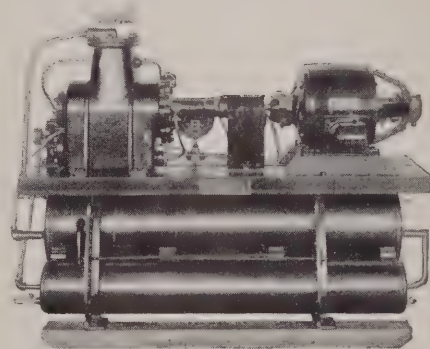
Coldak is not a brine circulating system. It requires no large, insulated pipe lines. The Coldak feeder pipes are only  $\frac{3}{8}$  inch! They require no insulation whatever. And Coldak needs no watchman or engineer to operate it. Consider the saving!

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*It would be next to blasphemy to allow staining and discoloration to mar the beauty of this stone doorway. Clear DRIWAL was used—and will preserve the original beauty, color and texture of the stone work for years.*



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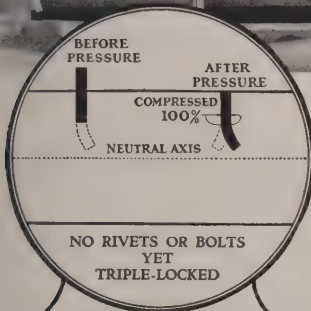
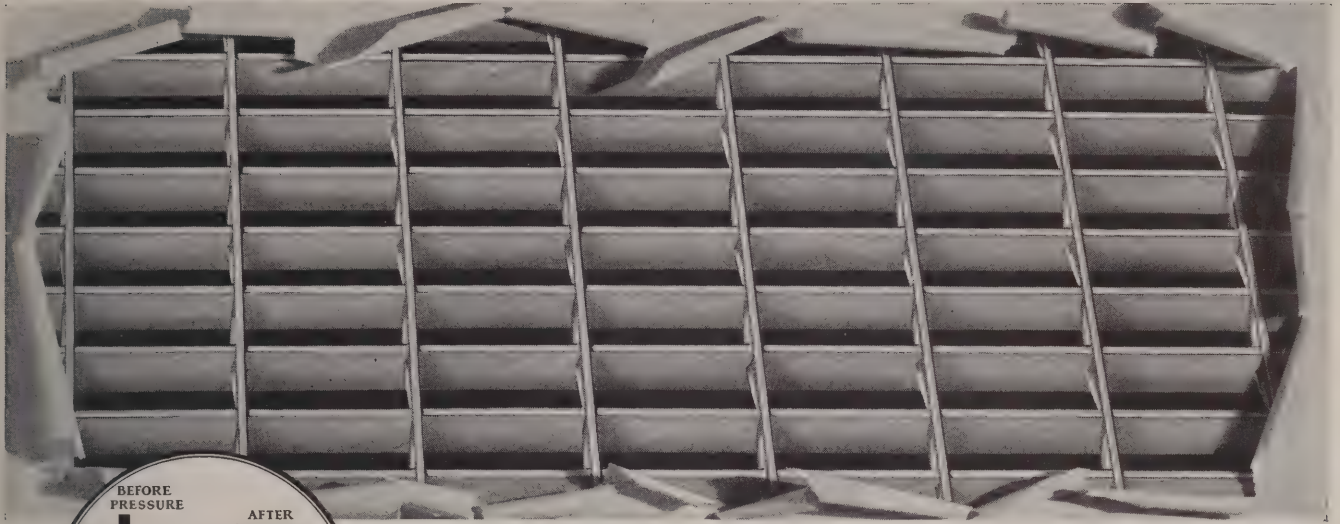
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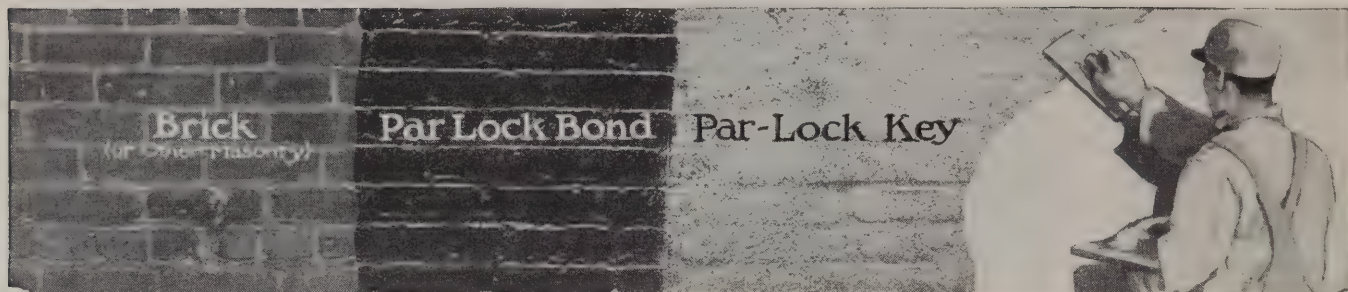
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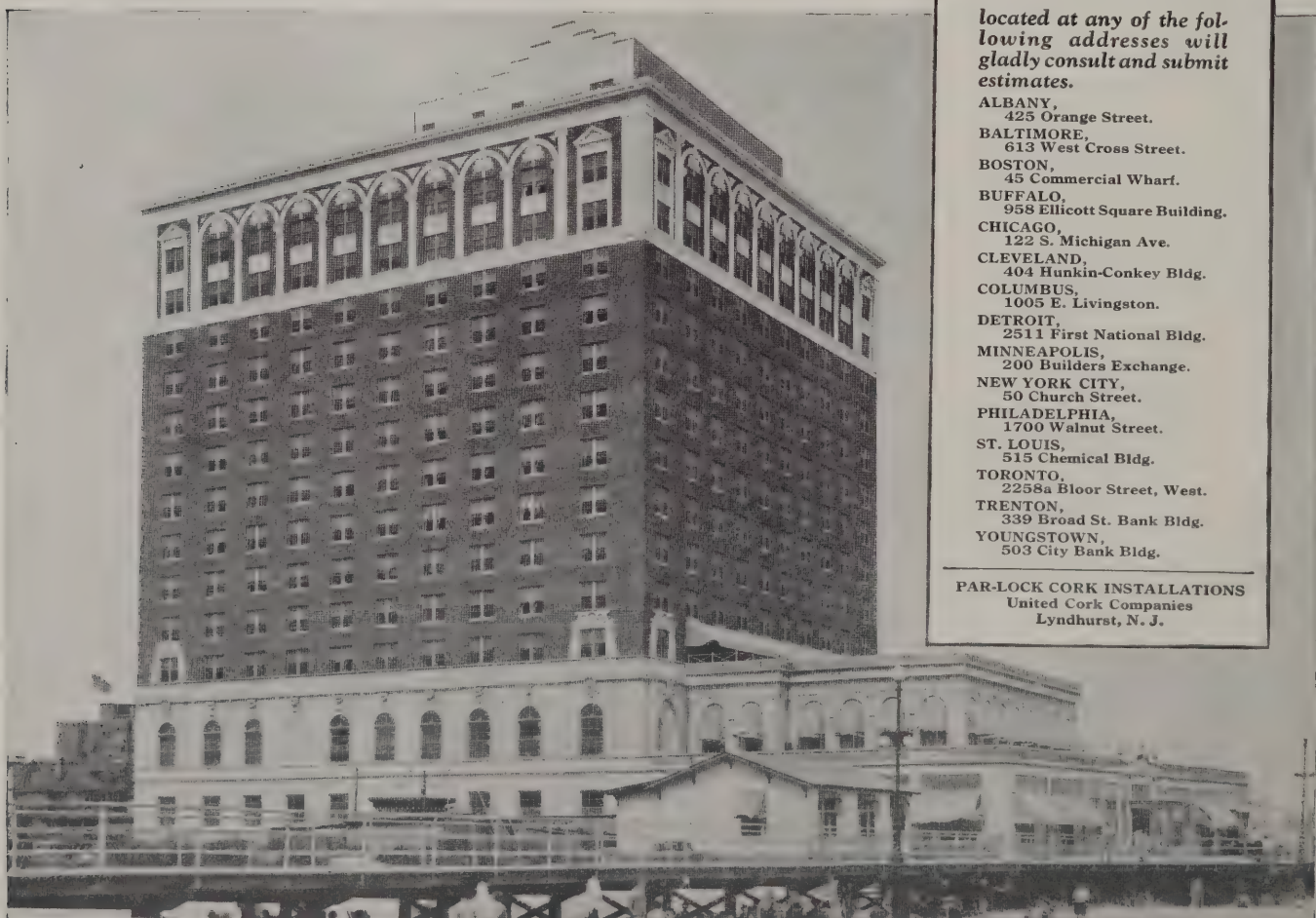
*The President Hotel, Atlantic City, N. J., Louis I. Brooks of New York, Architect.  
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Par-Lock applied by The Par-Lock Appliers of New Jersey.*

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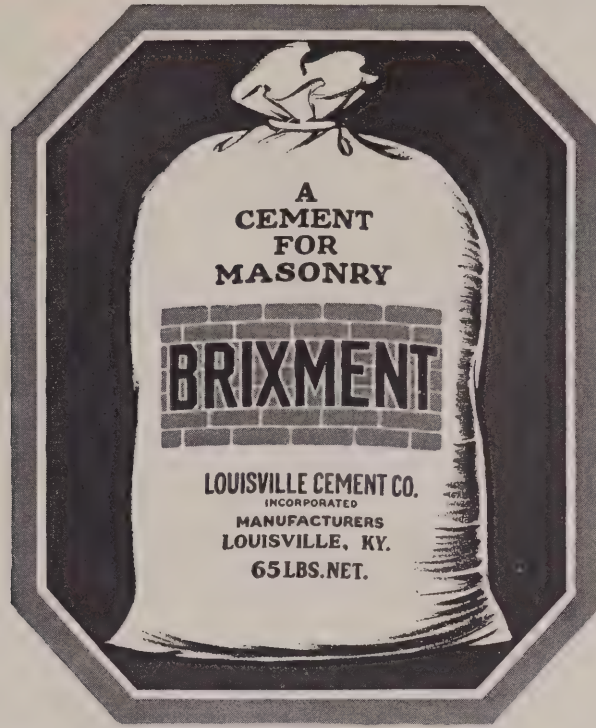
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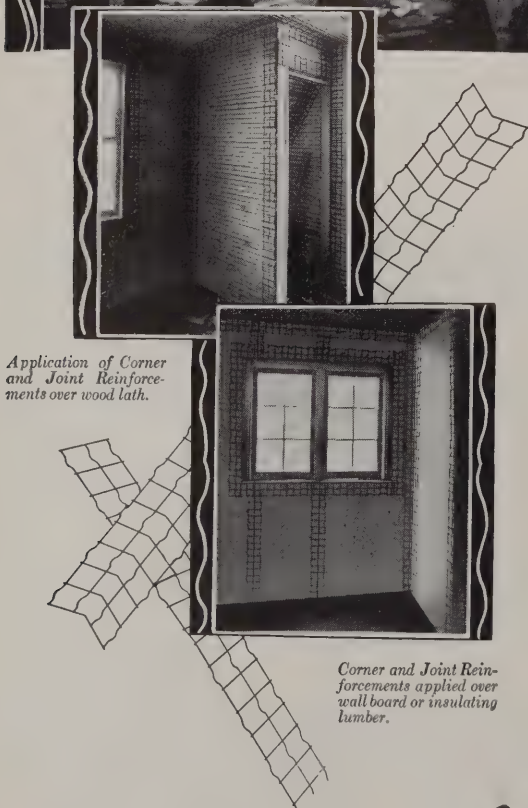
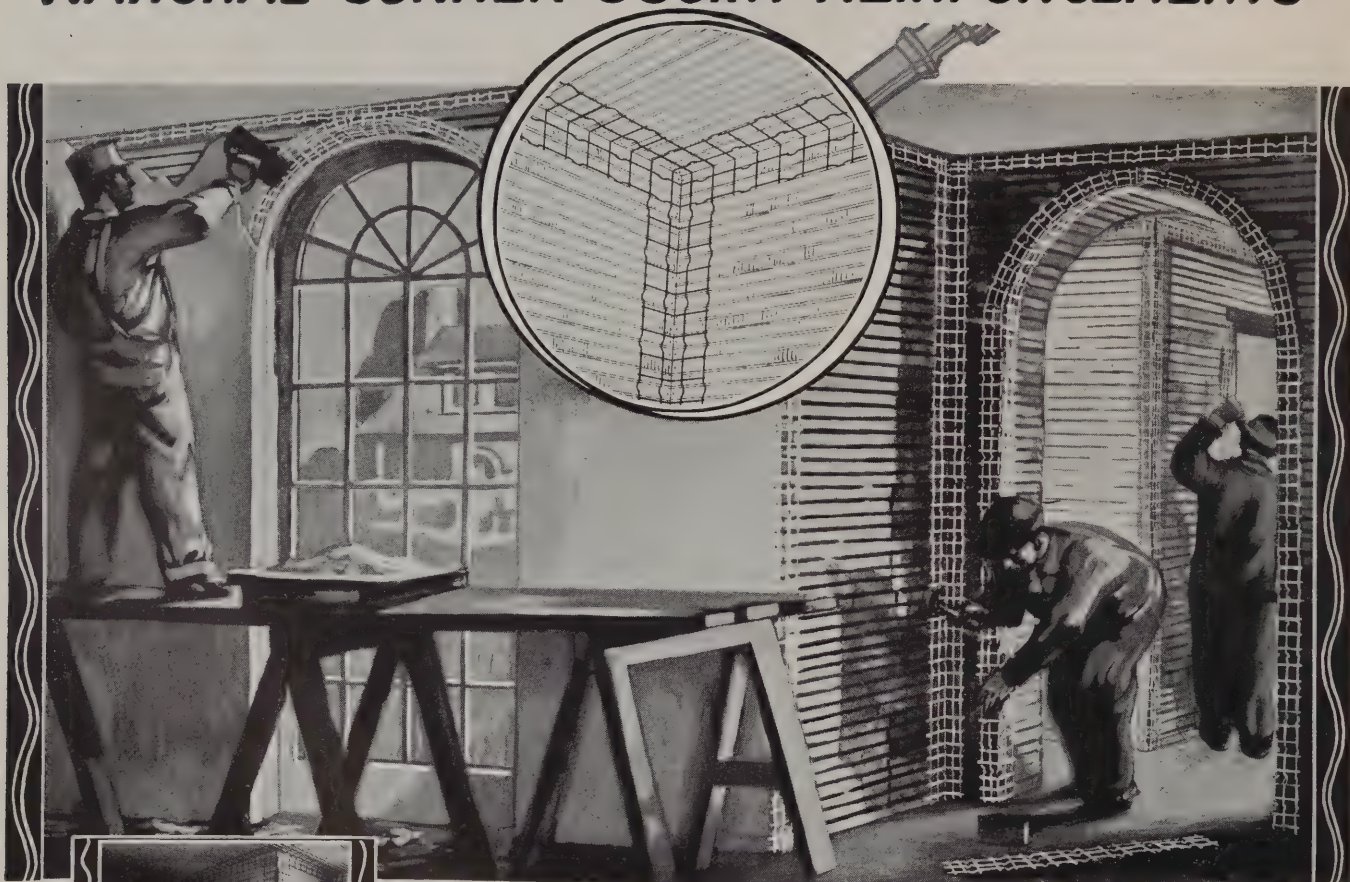
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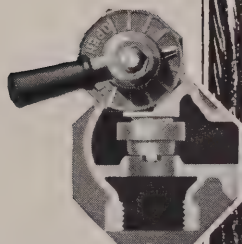
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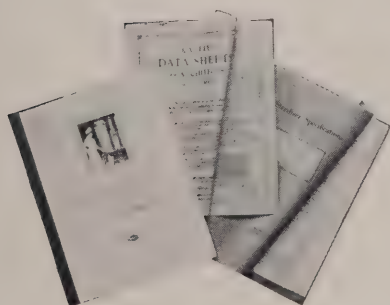
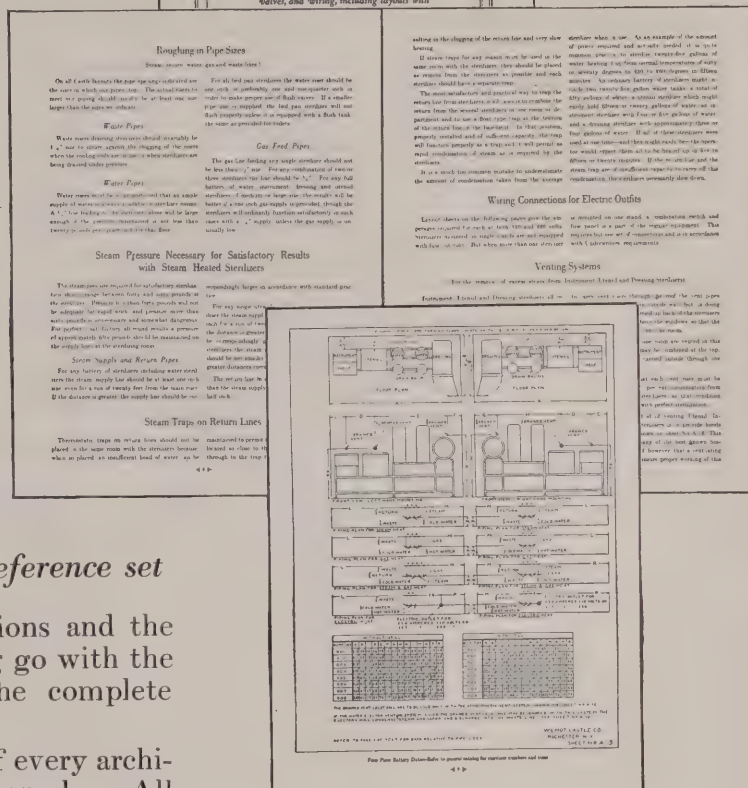
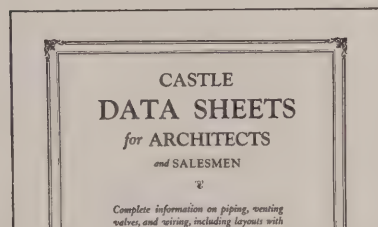
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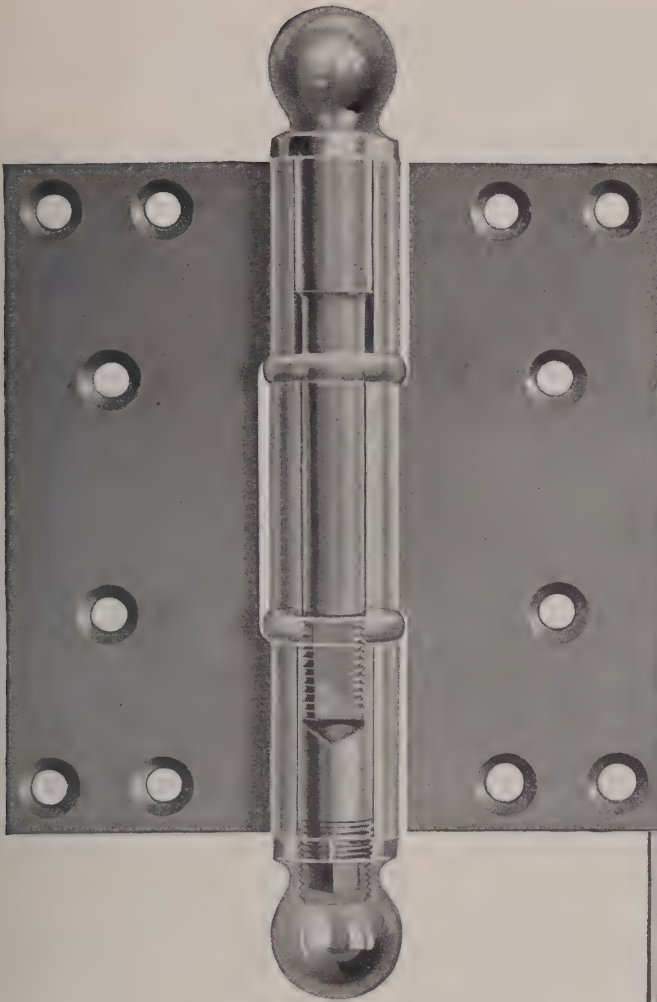
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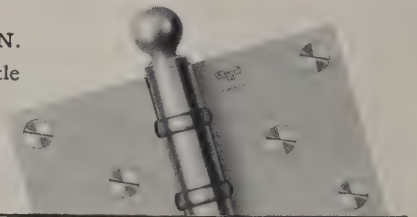
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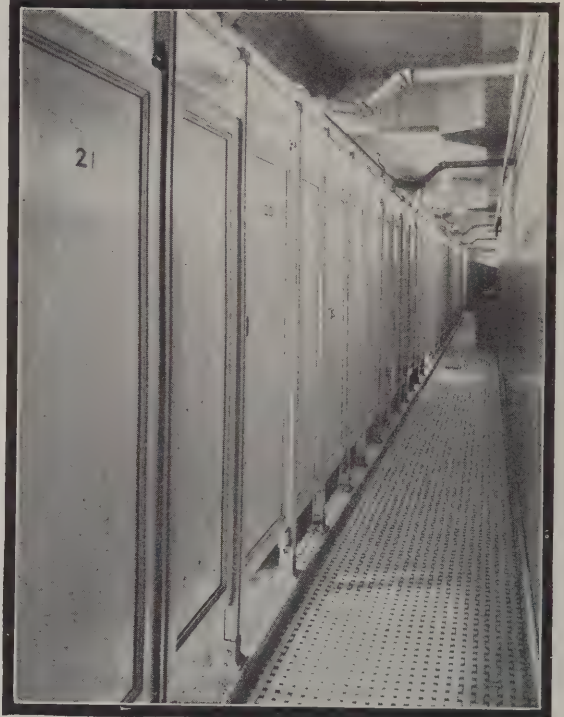
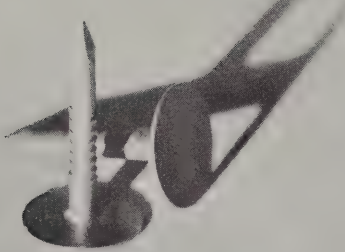
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# BOOK DEPARTMENT

## Architecture in England Under the Later Georges

A Review by VICTOR C. GIFFORD

IN this volume there is given a general view of the architecture of the reign of George III, with some account of the various men who produced it, from architects of prominence, such as Robert and James Adam and Lord Burlington, to the work of little known and merely provincial men, showing that so long as a single style was dominant, its forms and proportions could be established and used with success by men of moderate abilities and narrow training.

The English in 1760 were tiring of Palladian pedants and Rococo designers. Many architects, though they may have desired to express themselves in a new or individual manner, clung somewhat closely to established form. Chief among these were James Paine and Sir Robert Taylor, who had neither the natural originality nor the acquired knowledge to stamp them as originators of a style. Robert Adam left England for Rome in 1754, and made full use of his time and abilities, and in his endeavor to get away from mere "temple" architecture he visited Spalatro, where Diocletian's palace in great measure survived. Adam absorbed all that was earliest and best in the architecture and decoration of the Italian Renaissance before the beginning of its Baroque phase, and establishing himself in London in 1758, he rapidly made his reputation as the leading light of the new school. From the time of his return from Italy may be dated a very remarkable improvement in building construction and furniture design in London and throughout England. A representative but not exhaustive list of the men who produced the domestic architecture of the day includes the brothers Adam, Robert and James; William Chambers, who was appointed to teach architecture to the Prince of Wales, afterward George III, and who in 1759 published his "Treatise on Civil Architecture,"—George III allowed him to use a knight's title, and he became known as Sir William Chambers; James Gandon, a pupil of Sir William Chambers, who published the fourth and fifth "Vitruvius Britannicus"; Henry Holland, who held the appointment of architect to His Royal Highness until his death, and who remodeled Carlton House when it was assigned as a residence to the Prince of Wales when he came of age in 1783; and James Stuart, known as "Athenian Stuart," through his "Antiquities of Athens," published in 1762.

There was also James Wyatt, whose exhibition of his designs for the Pantheon, a building which in 1771, although still incomplete, amazed Horace Walpole, and which raised general enthusiasm when it was opened in 1772. In a few years he had outdistanced even Adam then preëminent in the extent of his country practice.

The volume is superbly illustrated and sets forth the excellence of the Georgian architecture of that day. Included among the illustrations are those of Ashridge Park, built on the site of an old home of his ancestors by the seventh Earl of Bridgewater from designs by James Wyatt. Bayfordbury, south of Hertford town, was built in early Georgian style by Sir William Baker in 1759-1762, but his son enlarged and remodeled it in the neo-



Library, Kyre Park, Worcestershire  
An illustration from "English Homes, Later Georgian Period"

Greek manner in 1809-1812. Tabley House, near Knutsford in Cheshire, was built for the Leicester family in 1761 by Carr of York, who also carried out later additions. Mention is made of Jacob Tonson of Sedbury, a well known bookseller, who ran the famous "Kit Cat Club" and owned portraits of its members. The chief treasure and delight of his home, Bayfordbury, consists, in the opinion of most people, not of its architecture, its furniture, or its trees, excellent as these are, but of its paintings, for among them there still remains that remarkable and historic set of portraits of the members of the Club. We are told by Thomas Hearne, in an entry he made in his diary in 1705, that the "Kit Cat Club came to be so called from one Christopher Cathing (a pudding pyeman) with whose puddings and conversation the first founders of the society were extremely well pleased." A letter written by Vanbrugh in 1763 refers to his building a room in his house, "Barn Elms," now the Ranelagh Club, wherein to entertain the Kit Cat Club and to hang the portraits of its members painted expressly for him by Sir Godfrey Kneller. In this section of the volume there are reproduced the portraits of Sir John Vanbrugh, William Congreve, John Dryden, Joseph Addison, Sir Richard Steele, Jacob Tonson, Senior, and Sir Robert Walpole, the Duke of Grafton and Lord Mohun, and other lights in the architectural and literary worlds.

ENGLISH HOMES; Period VI—Volume 1; Later Georgian, 1760-1820. By H. Avray Tipping. 402 pp., 10½ x 15 ins. Price \$25. Charles Scribner's Sons, New York.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM



# Spanish Details

## A Highly Practical Work on the Spanish Renaissance

By William Lawrence Bottomley



**I**N this volume there is presented a collection of illustrations and measured drawings of carefully selected details of Spanish Renaissance architecture. The work of a New York architect who has been notably successful in attractive use of Spanish motifs in his own practice, the volume presents not so much work of a striking and magnificent character as what is comparatively moderate in scale and therefore adaptable for present-day use in America.

The volume is replete with illustrations of well chosen, simple Spanish facades, doorways, windows, balconies, balustrades, exterior stairways and the grilles of wrought iron or carved and turned wood which are used at gates, windows and doorways. Interior details include the arcades of patios, ceilings, chimneypieces, floors, doors, shutters, wall fountains, etc., and since in most instances the illustrations are accompanied by measured drawings the reproduction of these details is not difficult.

*Of all the recent works on the Spanish Renaissance this is perhaps the most practical for actual use.*

Frontispiece in color; 104 plates and measured drawings, 11 x 13 $\frac{3}{4}$  ins. In portfolio form, \$12.50; if bound, \$15.

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MEXICAN ARCHITECTURE, DOMESTIC, CIVIL AND RELIGIOUS. Text and Illustrations from Photographs by Atlee B. Ayres. 150 Plates, 12 $\frac{1}{2}$  x 16 ins. Price \$25. William Helburn, Inc., New York.

**W**RITERS on subjects connected with architecture have many times emphasized the fact that the architecture of probably no other country is as little known to Americans as that of Mexico, a land separated from our own not by vast expanses of ocean, but by the narrow Rio Grande. Various American architects and writers have explored the countries of Europe,—particularly during late years have they explored and studied Spain,—producing works of incalculable value to architectural designers as well as to writers and historians; but for one reason or another the really noble and splendid architecture of Mexico, particularly of religious buildings almost at our very doors, remains relatively unknown.

The architecture of any country must necessarily be studied in the light of the country's political history. The American colonies, outposts for the most part of English civilization, produced upon these Atlantic shores architecture modeled as closely as was possible upon that then current in England. Mexico developed something patterned after what prevailed in Spain, for Mexico was for ages a possession of Spain, and the wealth which she poured into the coffers of the mother country supplied in large part the means which made possible much of Spain's architectural development. With Mexico's exploitation almost completely in the hands of Spanish generals, governors, soldiers and ecclesiastics, to say nothing of architects and engineers, and with almost limitless resources closely at hand, there came into being marvelous works in the way of engineering, superb cathedrals and churches, and well ordered cities and towns modeled upon the Spanish pattern, and all this when the American colonies were barely emerged from their early primitive stages; and notwithstanding war, domestic upheavals, and the chronic state of revolution which has been Mexico's portion, these achievements, and many of a later day, remain for the embellishment of American architecture.

The value of Mr. Ayres' work to architectural designers will be great. He has been rarely successful in obtaining photographs of buildings which while not of the first magnitude as to size or cost are those which are most useful as models here in America. This usefulness applies particularly to illustrations of domestic structures and religious buildings,—perhaps especially to those of religious buildings, for of late there seems to have come into vogue in America in planning churches a certain appreciation of what one might call "structural integrity"—building which is real and genuine rather than of the "office building" type, and many of these fine old Mexican churches, afford examples of this integrity and offer examples of structures which may be developed upon scales either modest or lavish. Like almost all books dealing with Mexican or Spanish architecture, this volume devotes considerable space to illustrating interiors made beautiful by work in the form of metal forging, wood carving and the making of pottery and tiles, forms of art which sometimes seem to be almost as full of appeal as architecture itself. Possibly if it were not so feudal and its history so dramatic, the impression of vast strength gained from the architecture of Mexico, would not be so impressive. Mexico's inborn pride and her isolation gave whatever she did a distinct national flavor.



**BUILDING FOR RELIGIOUS EDUCATION.** By Henry Edward Tralle and George Earnest Merrill. 186 pp., 5¼ x 8 ins. Price \$2. The Century Company, New York.

AS the art among all the arts which sustains the closest relations with life, architecture is of course influenced by all the changes which time brings to human existence. In no sphere of architecture is this being more strikingly illustrated than in that which has to do with structures planned and built to serve purposes directly or indirectly connected with religion. Over a great part of the religious world there have come, during the last 50 years, changes in point of view which seem to have been of the first magnitude. Growing indifference to dogmatic teaching has brought into new prominence the importance of what is today known as "social service," practically unknown a half-century ago, but now frequently depended upon to hold the interest of people to whom doctrinal teaching or belief has ceased to exert any very strong appeal. This change has brought into wide favor buildings devoted to, in addition to Sunday School purposes, club or social uses, Boy Scout and Camp Fire organizations, gymnasiums, swimming pools, bowling alleys, kitchens and many other adjuncts which are necessary or at least very helpful where much is made of social service; and many of these buildings, since they are often the work of experienced architects, are models of everything which such structures should be.

It is, of course, extremely helpful to have presented in book form an account of the progress thus far made in work of this character, particularly by men as widely experienced as Dr. Tralle, a specialist in religious education and author of "Psychology of Leadership," "Dynamics of Teaching" and several other works, and Mr. Merrill, who in addition to being a member of the American Institute of Architects, is one of the authors of "Planning Church Buildings." In the volume there are described and illustrated by plans and views of interiors the most advanced and highly specialized of the numerous buildings devoted to this work. The volume is obviously intended to be an aid to clergymen and building committees entrusted with the carrying out of plans and erection of buildings for these forms of effort, and the thoroughness with which the authors cover every detail of the subject should be an immense help toward their achieving success in an admittedly difficult field.

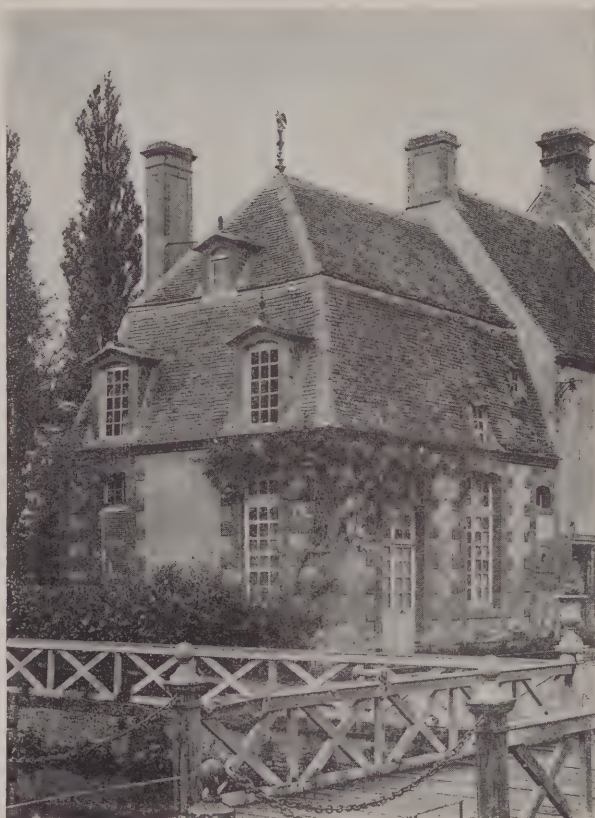
**SOME LESSER KNOWN ARCHITECTURE OF LONDON.** By James Burford and J. D. M. Harvey. Text and 70 pp. of illustrations. 7¼x9¼ ins. Price \$6. William Helburn, Inc., New York.

PROBABLY because in America relics of an interesting and worthy architectural past are so few (and rapidly becoming fewer), the student is likely to look to other countries for that inspiration in the way of domestic architecture which is so largely denied to him at home,—to England chiefly, for there the spirit of progress moves at a less rapid gait than in America, and it deals rather more gently with the obstacles in the form of old buildings which interfere with its line of march. Not that countless treasures in the way of English architecture are not either gone or going; the fate of a large number of London's old churches seems to be even now trembling in the balance, famous Regent Street has disappeared, and there are frequently heard disturbing rumors regarding the impending fate of more treasures, rumors which warn the student to delay no more than is neces-

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sary his sojourn in England if he would find that inspiration and enjoyment of architecture of which he goes in quest. Very little of architectural interest may remain.

But if interesting old buildings must disappear, let us at least have some record of their glories, lest their charm be entirely lost to the world, and this volume preserves in the form of illustrations many minor details of architecture in and around London which, while not in imminent peril of destruction, are likely eventually to go the way of much which has already vanished. There are countless localities in London or in the spread-out suburbs which lie on every side,—Chelsea, Southwark, Chiswick, Highgate, Stepney, Blackheath and many others,—where the charm of earlier days still lingers, often in stages of more or less picturesque decay, and the authors of this helpful volume have gathered from these and from other forgotten parts of London illustrations of certain old buildings, brick town houses in rows or in groups for the most part, their fine facades, porticos, hoods, entrance doorways and the ironwork in the form of railings, fences or gates which so frequently goes with them; or else of equally fine old structures which stand detached,—manor houses, perhaps, or the homes of prosperous merchants before they descended in the social scale to the status of almshouses,—but even as almshouses still boasting their pedimented gables, rich details of door and window surrounds, quoins of stone or of brick, and often their fine brickwork, laid in many excellent bonds and with keystones or string courses of brick or stone disposed in ways which often add high architectural dignity to an exterior which would otherwise be commonplace. Several of the most valuable plates show

piers of brick or of brick and stone placed as parts of gateways or as supports for the iron fences which pre-Victorian architects knew so well how to use, while other plates deal with the "memorial tombs" which are seen in so many of London's old and half-forgotten graveyards, tombs which make excellent use of classical details and funerary urns, motifs which are much used today.

**BUILDING MECHANICS.** By W. G. Sheppard. 264 pp., 5½ x 8¾ ins. Price \$4. Oxford University Press, New York.

THE relations between architecture and engineering, which are so close and intimate that it is difficult to designate the point at which one ends and the other begins, lend to any department or division of the subject of engineering an interest to architects who might be supposed to be concerned chiefly in design. This work by a well known English structural engineer is an attempt to fill one gap in what might be called the literature of engineering. There are several treatises on the theory of structure, but they are as a rule so written that a complete knowledge of higher mathematics is demanded of those who would profit by them. The subject by its very nature is one which would hardly engage the attention of the inexperienced, and this volume has been prepared with the needs of students in technical schools chiefly in view. As engineering involves a number of problems of different sorts, to help the student the supplementary matter at the end of the book gives a complete table of the dimensions and properties of British standard steel joists. The fact that it is based on English rather than American engineering practice does not impair its value to students of the subject but increases it by giving a wider view and many constructive hints.

## PROVINCIAL HOUSES IN SPAIN

*By Arthur Byne & Mildred Stapley*

ARCHITECTS value Spanish types of domestic architecture because of their simplicity of design and plan and also because they are easily developed in materials inexpensive and easily had. Spain offers a choice of several kinds of residence architecture, types sufficiently different from one another to afford considerable range of selection, yet all possessing the same strength and virility, the excellent lines, the same graceful but unaffected grouping, and the discriminating use of detail which renders distinguished so many Spanish domestic buildings.

Houses in various parts of the Spanish peninsula, particularly the buildings of medium size in rural districts or provincial towns, offer excellent precedent for use in different parts of America where climate conditions are about what prevail in the provinces of Spain.



IN this volume two well known writers on Spanish architecture and decoration review the various forms which are given to the small or medium sized house in Spain. To render the work as helpful as possible to architects, the authors have included many plans and drawings of different kinds, details of such exterior parts of buildings as friezes, cornices, windows, timber overhangs, soffits and balconies, or of such interior parts of the structure as ceilings, fireplaces, doors and stairways. Part of the work deals with the tiles, pottery, ironwork, plaster in relief and the other forms of craftsmanship which contribute so much to the excellence of domestic architecture in Spain. It is a work likely to be invaluable to the designer.

The book contains text and 190 plates 12½x16 inches, and is bound in cloth. Price \$25, postpaid.

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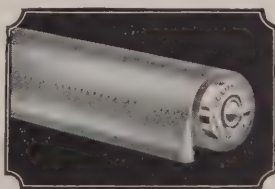
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PARKER MORSE HOOPER, A.I.A., Editor

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# THE EDITOR'S FORUM

**T**O the recent necrology of American architecture, a passage of necrology already impressive by reason of its length, more names must be added,—the names of Charles I. Berg, Frank W. Ferguson, Andrew C. McKenzie, George W. Maher, and James Hollis Wells.

## CHARLES I. BERG

**B**ORN in Philadelphia in 1856, Mr. Berg received the greater part of his architectural training at the Ecole des Beaux Arts, and during many years he was prominently identified with the Society of Beaux Arts Architects as well as with the Architectural League of New York and with the American Institute of Architects, of which he was a Fellow and for three consecutive terms Secretary of its New York Chapter. Mr. Berg was also a member of the Players' Club, the National Arts Club, and of various other organizations whose aim is to promote the development of architecture and the other fine arts. His death occurred on October 13, 1926.

## FRANK W. FERGUSON

**I**N 1889 Mr. Ferguson became identified as a construction engineer with the Boston firm of Cram & Wentworth, to be admitted to partnership when the firm was reorganized later as Cram, Wentworth & Goodhue, and still later as Cram, Goodhue & Ferguson. During some 35 years Mr. Ferguson was "the solid, enduring, and ever-reliable foundation" on which the work of his organization was established and developed. "Self-effacing and modest to a degree, he never came prominently before the general public, but through the fair weather and foul of the formative years of the firm he was constantly present in all the material affairs of the office, and was the directing head of all its building operations. Possessed of unflinching patience, a serene philosophy and sense of humor, he bridged every difficulty and invariably brought order from threatened chaos.

"It was not his function to contribute to the artistic product of the firm, but æsthetics, after all, are only a part of architecture. For nearly a quarter of a century he saw to the material working out of the dreams and visions of his less practical associates, and therefore he played an equal part in whatever his firm produced." Besides being a member of the Boston Society of Architects, Mr. Ferguson was a Fellow of the American Institute of Architects. He died at his home in Boston October 4, 1926.

## ANDREW C. MCKENZIE

**B**ORN in Dunkirk, N. Y., and educated in Buffalo, Mr. McKenzie came to New York in 1884, and became associated with Babb, Cook & Willard. He later was associated with Cyrus L. W. Eidlitz, with whom he became a partner in 1902, at which time

they designed the Times Building in New York. Upon the retirement of Mr. Eidlitz in 1910, the partnership with Stephen F. Voorhees and Paul Gmelin was formed. While he was a member of this firm, McKenzie, Voorhees & Gmelin designed the West Street Building of the New York Telephone Company, the Telephone Buildings in Albany and Buffalo, the Brooklyn Edison Company Building, the Municipal Building of Brooklyn, and many others. Mr. McKenzie was a member of the American Institute of Architects, the Architectural League of New York, the Union League Club, Canadian Club of New York, the Railroad Club, the Briar Hills Country Club, and St. Andrew's Society, and the City Planning and Survey Committee of New York. His death occurred October 10, 1926.

## GEORGE W. MAHER

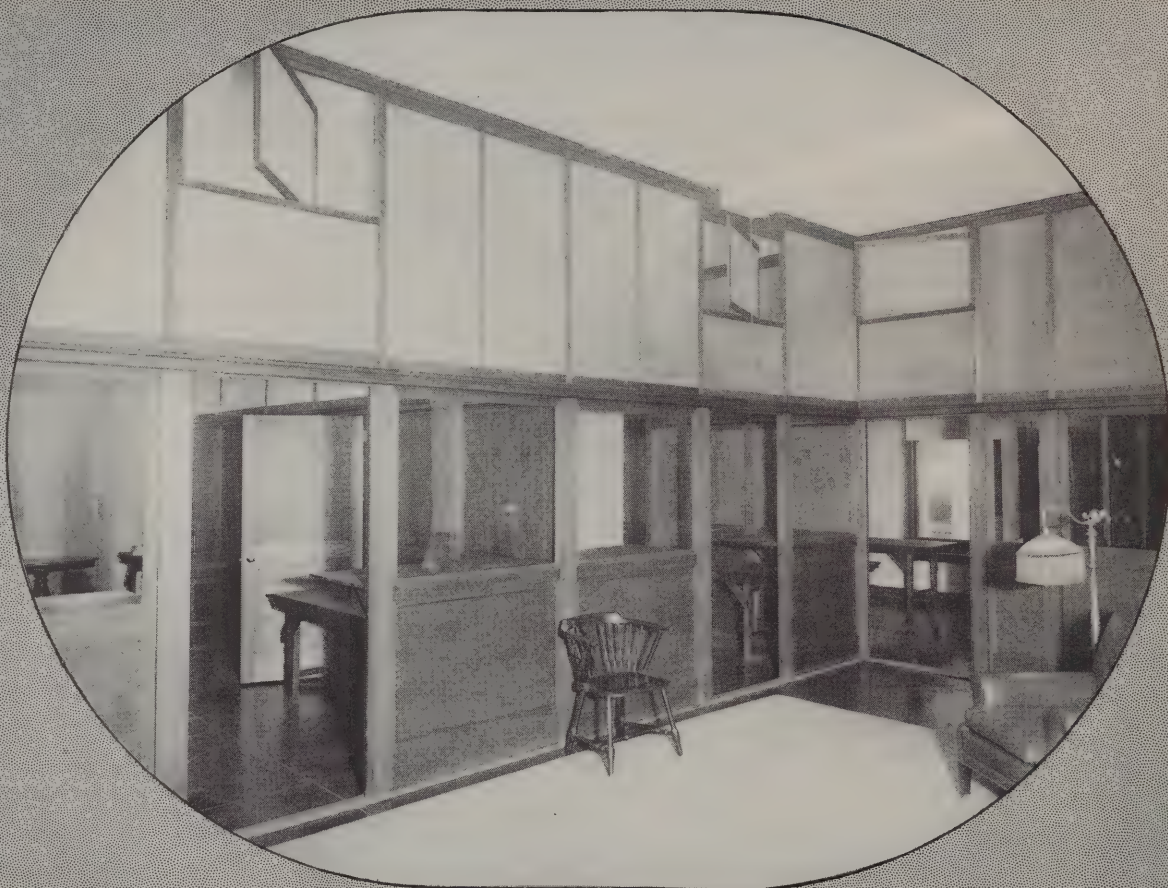
**B**ORN in Michigan on Christmas Day, 1864, Mr. Maher was identified with the architectural development of Chicago and its vicinity during their highly important formative era and during the period of astonishing growth which has been going on since the ending of the World War. As an architect he possessed to an unusual degree that business acumen which must guide any successful architectural practice, along with other somewhat different qualities which pertain to the sphere of æsthetics. Added to these qualities he possessed to an extent wholly unusual that public spirit without the support of which many of the activities connected with present-day architecture would languish if not perish. He was a Fellow of the American Institute of Architects and a past president of the Institute's Chicago chapter.

## JAMES HOLLIS WELLS

**A** FIGURE prominent in more than one sphere of New York life was removed by the death on September 24 of James Hollis Wells, senior member of the firm of Clinton & Russell and for many years in command of the 71st Regiment, N. Y. N. G. Born in England in 1864, he received the degree of Civil Engineer from Lehigh University in 1885 after having received his earlier education in the public schools of South Bethlehem, Pa., and having taught in the grammar schools of the same place. In 1886 he was appointed Inspector of Pavements in New York, and later was connected with a well known contracting firm before he became identified with the construction projects of the Vanderbilt interests, still later becoming associated with Clinton & Russell, the firm of which he finally became the senior member.

Colonel Wells during the 33 years of his service in the National Guard occupied many posts of honor in New York's "Seventh" before going to the 71st, of which he was for so many years colonel, and as a major he saw active service with the flag in Cuba.





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# The ARCHITECTURAL FORUM

Volume XLV

DECEMBER 1926

Number 6

## The Value of Memorial Architecture

By HARVEY WILEY CORBETT

IN discussing the value of any particular type or kind of architecture, we are all likely to draw comparisons. We might say, for example, that motion picture theater architecture is more valuable than home architecture, because most people don't stay at home nowadays, but do go to the "movies";—that factory, office building or store architecture is more valuable than "movie" architecture because people must spend their working hours in some such building;—and then again, that people go to church only once a week (if that) and see a bit of memorial architecture only occasionally. If we make our comparison in terms of financial outlay, investment or productivity, we are again confronted with the thought that memorial architecture has the least value of any type. In fact, if we judge the matter on any commercial basis in this super-commercial age, we might very well ask ourselves why consider it at all, why think about it or, much less, why write about it.

Yet there are certain aspects of memorial architecture which demand very careful consideration. In the middle ages there were but two kinds of architecture,—domestic and religious;—the people lived in hovels and worshiped in cathedrals. The hovels were poorer than anything known today; the cathedrals greater than anything man can now produce. The material life of that time offered little that could be called attractive, and the spiritual life was the only compensating reward that poor humanity enjoyed. The home provided the bare necessities of existence,—hardly that, in fact. With the advance of civilization many relationships have changed. Material well being, comfort and cleanliness have replaced squalor, suffering and plague, and instead of only two kinds of architecture we have at least "57 varieties," all different, functioning to increase material happiness or worldly wealth. "Spiritual architecture" has an ever-diminishing rating on the ledger of modern life. Does this mean a diminishing value? Quite the contrary. Spiritual architecture, and in that we would include religious as well as memorial, as they are very much the same in purpose and should be classified together, is the last remaining bulwark of the soul of man. Instead of being of the least value, it is of the greatest. No type or kind of architecture is more important. No other form of building has

such vital significance, and certainly no other kind of architecture demands such study, such imagination, such vision. It is the one and only architecture in which the problem must be treated abstractly,—in which the message it carries is more important than the form, the material, the style, or even the use.

The problem from the architect's point of view is the most difficult, and therefore the most fascinating and alluring. Memorials are not built for a generation, to be "scrapped" when land values demand new and modern structures. The present-day architect, if he doesn't "pass out" in his early youth, lives to see many of his masterpieces torn down and rebuilt, generally by another man. But memorial work is different. Its spiritual significance defends it against the encroachments of a material age, and the man who has the opportunity of designing and producing in this field may feel fairly certain that coming generations will at least see it, and that if he does it well, if he holds strongly to the spiritual thought which inspired it, if he but carries the message, not alone by the graven word but also by the dignity of form and proportion, the refinement of color and detail, future generations will also admire his work!

It might be urged, of course, that the extent of what is here called memorial architecture is not sufficient to warrant its being developed by anyone as is done, for example, with the designing and planning of hotels, churches or apartment buildings. The designing of a memorial, whatever may be its character, comes to an architect (when it comes at all) as part of his general practice, and the problem must be solved and the work done just as a solution is found and attention given in any other type of architectural work. For there is, after all, no essential difference between architecture of this type and architecture of any other variety; the function of architecture, it has been said, is to "build beautifully," and architecture's purpose is served when a structure of any kind possesses inherent beauty, although perhaps there is need for rather more than usual care, thought and inspiration where memorial architecture is concerned. Since a memorial is likely to occupy a position of prominence, as has already been suggested, its very permanence creates an obligation to posterity which the architect will do well to heed.



*Photos. Paul J. Weber*

PLYMOUTH MEMORIAL BUILDING, PLYMOUTH, MASS.

LITTLE & RUSSELL AND JOSEPH D. LELAND & CO., ASSOCIATED ARCHITECTS





MAIN ENTRANCE HALL



SIDE EXIT FROM AUDITORIUM

PLYMOUTH MEMORIAL BUILDING, PLYMOUTH, MASS.  
LITTLE & RUSSELL AND JOSEPH D. LELAND & CO., ASSOCIATED ARCHITECTS





MEMORIAL HALL



AMERICAN LEGION ROOM

PLYMOUTH MEMORIAL BUILDING, PLYMOUTH, MASS.

LITTLE &amp; RUSSELL AND JOSEPH D. LELAND &amp; CO., ASSOCIATED ARCHITECTS



# Memorial Buildings

By EGERTON SWARTWOUT

THE title, I'm afraid, is a bit misleading. It might be confusing to the casual reader, if indeed there is a casual reader of architectural articles, or any reader at all for that matter; so let us start again in the subjunctive, and say that if there should be a casual reader, and if he should start to read this casually, he might, in his casual way, imagine that he would find here a complete historical dissertation on the subject of memorial buildings, with an indexed list and footnotes and references and pictures and, above all, evidences of painful research. Now that isn't my idea at all. I have only the vaguest kind of a notion of the historical side of it, and I have not the slightest intention of reading up the subject, for I particularly loathe painful research. Let us treat the subject in a different way.

All I intend to do is to ask a question and answer it myself, to my own satisfaction I hope, if not to that of the casual reader. And the question is:

Should buildings be erected as memorials, or rather, should memorials be buildings and not arches, or statues or fountains or shafts? A very simple sort of question, perhaps, but rather hard to answer to anyone's satisfaction; in fact I think the only answer is that there is no answer, and that it all depends on the subject to be memorialized and the type of building proposed. If it is the intention or the testamentary obligation to commemorate the industrial capacity and business acumen of a highly successful manufacturer, say of Chiclets or Esquimo Pie, I can imagine that there might be built, in close proximity to the factory of the deceased, a neat Pompeian swimming pool or an early English billiard parlor, or an entirely modernesque hall for movies and a place of meeting for the social activities of the local Rotary Club. Or I can imagine the very proper and appropriate erection of a gymnasium or a baseball cage or swimming pool as a memorial to



Elks' National Memorial, Chicago

Egerton Swartwout, Architect; J. Hollis Wells, Advisory Architect





DETAIL, MEMORIAL HALL, ELKS' NATIONAL MEMORIAL, CHICAGO  
EGERTON SWARTWOUT, ARCHITECT; J. HOLLIS WELLS, ADVISORY ARCHITECT





ELKS' NATIONAL MEMORIAL, CHICAGO  
EGERTON SWARTWOUT, ARCHITECT; J. HOLLIS WELLS, ADVISORY ARCHITECT

JR-B



Detail, Tennessee War Memorial

some distinguished athlete who has been an honor to his university or college or school, as for instance the skating rink built as a memorial to "Hobey" Baker at Princeton. Or again a family, wealthy enough to do it properly, might well build a much needed college building as a memorial to a son who was an alumnus; I can imagine a number of instances in which buildings would be appropriate, but I cannot imagine the erection as a memorial, whether by a state or municipality, of a strictly utilitarian building which should properly be paid for by taxation.

In some good sized town, for example perhaps, there is a proposition on foot to erect a memorial to the men of the town who were killed or were wounded or who served in the Great War. Quite a respectable sum has been raised by subscription, and a happy idea strikes some of the city fathers. They need a new high school, or a town hall, but they don't want to raise the tax rate; it is not good politics to raise the tax rate; hence the great idea. Let us, say the city fathers, build this school or this town hall as a memorial; under the guise of a memorial, that is, really; let us incorporate in the building an auditorium with a tablet of names somewhere, and perhaps a statue, or at least some sculpture about it. How much better, they say, to do some good for the people; how much more practical this would be than to put up a shaft or a statue or some such gimcrack. And the deed is done. There



Minor Facade, Tennessee War Memorial, Nashville  
Edward Dougherty and McKim, Mead & White, Associated Architects



is a town meeting at which much is said of patriotism and of modern common sense and practicability, and the good of the dear people, but no open allusion is made to the non-increase of the tax rate; that is done by a whispering campaign. And so the school or town hall is built as a memorial, and there is an impressive ceremony at the corner-stone laying and another at the dedication; patriotic speeches by distinguished military and political personages; the band plays, and flags are plentiful, and then—the school in a year or so is just known as the Elm Street School, and the memorial town hall has become merely the offices of the mayor or the common council, and the auditorium is used for movies or an occasional town meeting. No one passing through the place would ever imagine either building was a memorial! The townspeople themselves have forgotten there was a memorial. The flags are gone and the band is gone, and the inscriptions on the tablets are nearly obliterated by dust and neglect. The memorial idea is forgotten, not because of any lack of feeling or of patriotism, but because we as a people are likely to forget quickly unless we have some visible and beautiful object to awaken our remembrances. Suppose, for example, those in charge of the Washington Monument had decided to build a new wing to the capitol instead of the majestic shaft which is now the center of the mall treatment. It would have been a practical thing, to be sure, but



Detail, Tennessee War Memorial



Main Facade, Tennessee War Memorial, Nashville  
Edward Dougherty and McKim, Mead & White, Associated Architects

who in 50 years, or in five years either, would have remembered the saving to the tax payers, or who would know that the new wing was a memorial?

Generally speaking, no memorial, if it is to be a real memorial, can serve any useful purpose; or to put it in another way, no structure can serve two purposes. It is either a memorial of some great act or sacrifice or of some great man, or else it is merely a school or a town hall. There can be no half way, and yet on the other hand it is conceivably possible to introduce in a distinctively memorial building certain subordinate features that may be of a practical nature. I hesitate to take as an example a building of my own, but as I have said before, I have no time or inclination to do any research for material. I perforce take what is at hand. There are, I'm quite sure, many other more appropriate examples and better buildings, but as a concrete example the Elks' Memorial in Chicago will serve. This building is a national memorial to those members of the order who have served in the World War, and the feature of it is a great memorial hall, circular in form with a domical treatment; the interior is of richly colored marble and of bronze, decorated by distinguished artists with mural and sculptural decorations which are in progress but not yet in place. There are, in addition, three other monumental rooms which serve as retiring rooms or anterooms. It is so far all monumental, and serves no utilitarian purpose. It is not intended as a meeting place or hall of any

kind; there are no lodge rooms. In the side wings, however, there are certain utilities; the grand secretary of the order has his permanent offices in one wing, and in the other are the headquarters of the Elks' Magazine, but they are quite separate from the monumental part of the building and have their own exterior entrances. They are treated frankly as accessories and do not interfere with the monumental appearance of the structure and, as it is generally seen from the front, the wings count as pylons rather than as utilitarian buildings; the basement windows have ample light but are completely hidden by the terrace wall; the domical central mass, the circular colonnade, the piers of the subordinate order screening the court, the great niches, and the steps and terraces, all these suggest to the passing stranger that here is a memorial to somebody or something, and he generally reads the inscription to find out just what it is. He may not like it architecturally, he may prefer a square to a round, but still he has no doubt of its character. At least that's the way it seems to work out actually. But enough of the Elks' Memorial. I only mentioned it as an example.

And this is my thesis. I have tried to show in a few words that under certain circumstances memorials can be practical buildings and still retain their monumental character, and that in many cases they cannot. I have put a question and tried to answer it, and if the casual reader doesn't like the answer, he may write his own version. It is a matter of opinion.



Details, Memorial Hall, Elks' National Memorial, Chicago  
Egerton Swartwout, Architect; J. Hollis Wells, Advisory Architect



# Memorials—Columns, Shafts, Cenotaphs and Tablets

By PAUL P. CRET

**B**EFORE we consider particularly the types of monuments grouped in the heading of this page, it should be remembered that the class of architecture which may serve the purposes of commemoration is large. Almost any type of architectural work can be given a commemorative character, and plazas like the Place Vendome, or the Place de la Concorde, built to commemorate the two kings, Louis XIV and Louis XV respectively; fountains, like those in Rome built by the popes; hospitals, libraries, auditoriums and bridges are examples of a very large number of memorials in which provision for public utility or enjoyment is included in the design. While utility may undoubtedly be an advantage that need not interfere with the essential requirements of any work of memorial architecture, it seems obvious that in a memorial the end to be achieved, primarily, is the perpetuation of the mem-

ory of a great man or a great event to future generations. This object being granted, it follows that permanency and a clear and arresting expression of the commemorative idea are essentials of the program; and that the most appropriate memorial is that which may best withstand the changes of centuries, and by the beauty and dignity of its design arouse to attention and respect the heedless mind of the wayfarer and that of the wayfarer still to come.

Tested by their fulfillment of these basic requirements, a number of our memorials, despite their present popularity, must be classed as of doubtful value. The memorial trees or groves in our public squares and parks, for instance, can hardly be regarded as fitted for long survival, and many of the auditoriums, libraries and convention halls which fill the land fall short both in point of permanence and in the expression of the commemorative idea.



Battle Monument, West Point, N. Y.

McKim, Mead & White, Architects





Monument to Steel, Sesqui-Centennial Exposition,  
Philadelphia

The construction of some of these buildings, in the first place, though adequate certainly for ordinary use, is not often of a sort to stand the wear of centuries; and, secondly, the constant changes in the requisite programs render them quickly antiquated; lastly, the commemorative idea is very frequently lost sight of in the utilitarian, so that thought of the man or the event to whose glory a building has been erected may well be the last that comes into the minds of the people who pass in and out of its doors.

We, perhaps no less strongly than did our forefathers, feel the desire of keeping alive the memories of our great men and of our patriotic achievements, but how much of our building will bear testimony, five hundred years from now, to our spiritual life of today? The earlier civilizations knew better how to apportion effort to the result to be achieved. If their commercial and domestic buildings were not designed to last for more than a few generations, and have in consequence almost entirely disappeared (but for the exceptional case of Pompeii), their memorial and civic architecture is still standing because they *wanted* it to stand, and so gave to it all



Photo. Underwood & Underwood

The Battle of Princeton Monument, Princeton, N. J.

Frederick MacMonnies, Sculptor



their skill in design and construction. Thus our knowledge of the architecture of antiquity has come down to us through its finest forms, and to this perhaps the glamour of the past is in no small part due. Does our belief in "utility,"—however temporary that utility may be,—denote a spirit superior to that which inspired the apparent extravagance of the Egyptians or the Roman builders, who, intent upon conquering time, were willing to pay the price required, or does it bear witness only to a mean and short-sighted parsimony? But this is not the place for such a discussion. Suffice it to say that a work of commemorative architecture which has little chance of enduring is hardly worthy of the name.

Among the important forms of this class of architecture, designed solely to commemorate men or events, are shafts, arches, cenotaphs, tablets and columns. Such types have been in use from the earliest times, and their tradition is all but as old as man's own hope of immortality. The shafts and obelisks have inherited from their common ancestor, the sacred upright stone, a rugged strength which seems to defy the elements; the Egyptian obelisks testify



The Patriots' Monument, Stamford, Conn.  
George Freeman, Architect



Photo. Underwood & Underwood

War Memorial at Harrogate, England





Memorial to the Employees of the Midland Railway  
Sir Edwin L. Lutyens, Architect

to us of the splendor of royal dynasties of 40 centuries ago, whether they are at present in their birth-land, Egypt, or in London, Paris, Rome or New York. This form is particularly effective in large monoliths. The Egyptian obelisk measures on the average 75 feet without the base, and has slightly convex sides. The pocket editions in our cemeteries, and the "monumental" versions with intricate pedestals and "heroic" sculpture are decidedly not an improvement on the original form, and the inscriptions, easily accommodated in the vertical writing of the Egyptians, have now to be confined to the pedestals. But there are fine examples of the later types in Italy and France, and of the modern in the Washington Monument, this last a satisfying example.

Columns have been still more popular as commemorative monuments. It is in vain that the purists have protested against the use of a support independent of the thing to be supported, or with some reasoning to that effect. The Greeks, who were pretty good judges in such matters, set the pernicious precedent, none the less, and the Romans and moderns have followed. It has merely added another example to the long list of constructive elements turned into decorative types. When a constructive form has through successive improvements become beautiful, it is not long before the idea of its original use is lost sight of, and the beautiful form is used more or less for itself. The city gate then becomes the triumphal arch, the pediment a door-crowning motif,



The Belgian Memorial, Thames Embankment, London  
Sir Reginald Blomfield, Architect  
M. V. Rousseau, Sculptor



and an order becomes the jamb of a mantelpiece. Thus the Greek column becomes the votive column, and from it have been evolved the Column of Trajan or Duilius in Rome, the columns of the Place Vendôme and of the Place de la Bastille in Paris, the column of the prison ship martyrs in Brooklyn, and the memorial column at West Point. These few examples among the thousand that exist are sufficient at least to convey the suggestion that the individuality of the artist, to assert itself, has no need of any brand new theme. The architect of tomorrow may find in the good old program of the commemorative column an opportunity for work just as characteristic of his times as the examples we have cited are vividly characteristic of their own periods. There is no time-worn theme, but only time-worn ways of treating it as well as methods which are fresh and new.

The cenotaph is a form of memorial that has been less often used in this country than in Europe, especially in the Europe of the Renaissance. As its name implies, it is a memorial monument in the shape of a tomb, but which does not receive the remains of the man to whom it is erected. The tomb proper was usually near by,—under the pavement of the church, for instance, where the cenotaph stood against the wall. The Romans have left us such a number of fine examples of this type of memorial that the following generations have been satisfied with variations of one or another of their designs. All the churches of Europe have beautiful examples of the



War Memorial, Calcutta  
John Greaves, Architect



War Memorial, Milton, Mass.  
Coolidge, Shepley, Bulfinch & Abbott, Architects  
Daniel C. French, Sculptor



cenotaph, and among the recent we can mention the Cenotaph at Whitehall, the work of Sir Edwin L. Lutyens. The main element in this austere type of memorial is the empty sarcophagus, and perhaps a reason for its disfavor among our contemporaries is their aversion to so direct a reminder of death, even when it is closely associated with the idea of immortality. Stern suggestions are losing favor with the modern public. Everything must be made pleasant.

The inscribed tablet is today the most widely and favored form of memorial. It may be as inexpensive as is desired, a place for it is easily found, and it has at least the permanency of the building to which it is attached. If it does not attract attention as readily as do some of the forms we have already described, it tells its story no less completely. A large part of our knowledge of many civilizations is in fact derived only from such inscriptions; 30,000 or 40,000 Greek inscriptions have been catalogued, and the number of Roman inscriptions is much larger,—which speaks well for the tablet as an enduring form of memorial. It should be said in passing, however, that bronze tablets have shown a bad habit of disappearing in times of crisis, whether during the in-

vasions of the barbarians at the time of the fall of the Roman Empire, or the invasions of northern France during the World War. Of the treatment of the tablet, it should be said that over-crowding the lines is a fault; the text must be written in such a way as to lend itself to harmonious distribution. To such apparently simple work as much talent can be devoted as to the most ambitious and worthy building. The iconography may play an important part, as may be seen in the Shaw Memorial in Boston, or the text can be the dominating feature, as in the Gettysburg Speech Tablet in the Lincoln Memorial.

These forms which we have considered in some detail are, as we have said, far from being the only types of memorial architecture, and if they have received special attention, it is because they are representative of the commemorative purpose in the strictest sense. In these works, which even in their strongest and noblest examples are but frail symbols of man's eternal hope to secure his glories and perpetuate his memory to future generations beyond the grasp of time, utility is, perhaps, best subordinated to beauty and simplicity of form, and to that reverent care in execution for which even time shows respect.



Perry Memorial Arch, Bridgeport, Conn.  
Henry Bacon, Architect





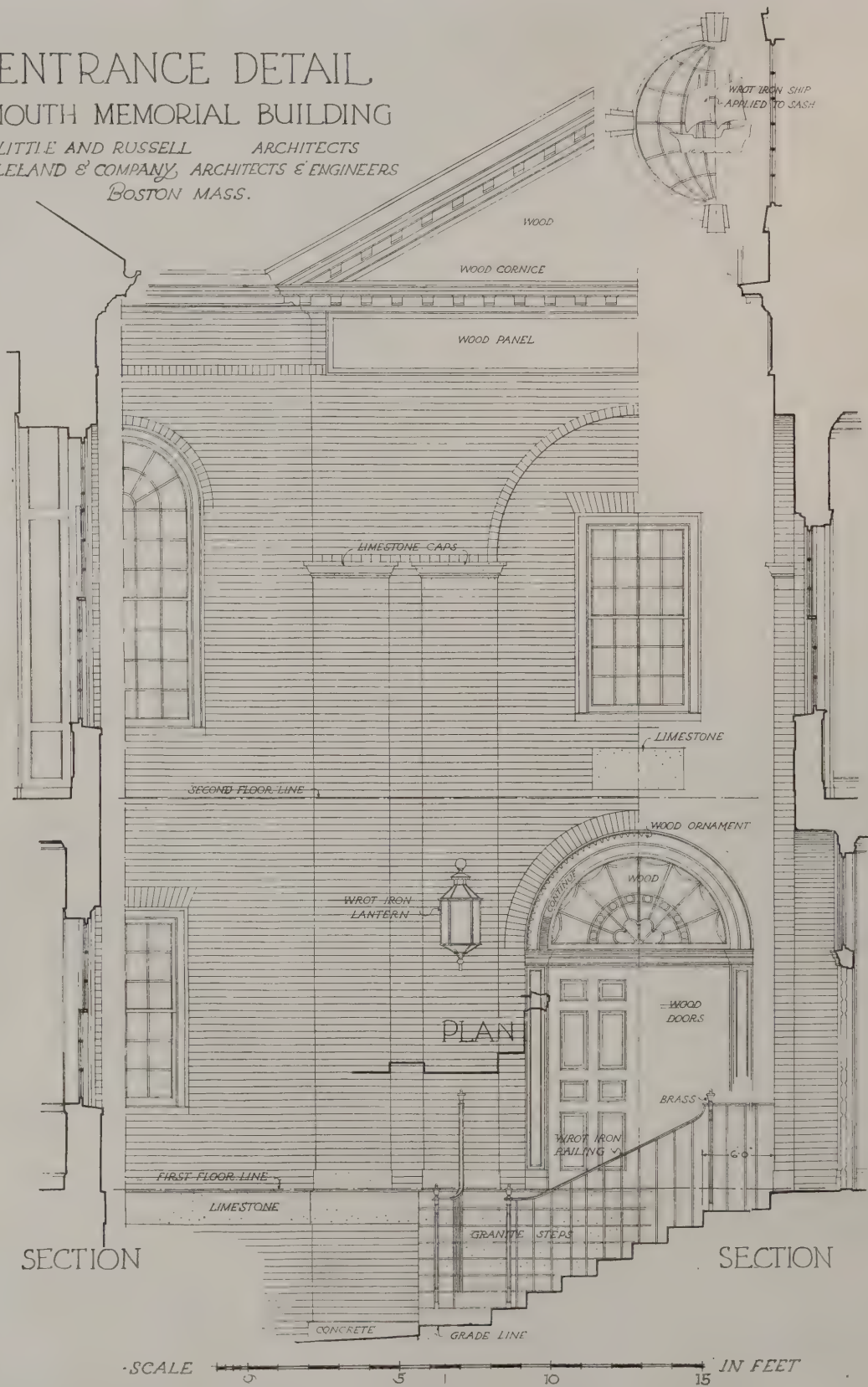
Photo. Paul J. Weber

Measured Details on Back

DETAIL, PLYMOUTH MEMORIAL BUILDING, PLYMOUTH, MASS.  
LITTLE & RUSSELL AND JOSEPH D. LELAND & CO., ASSOCIATED ARCHITECTS

# ENTRANCE DETAIL PLYMOUTH MEMORIAL BUILDING

LITTLE AND RUSSELL ARCHITECTS  
J. D. LELAND & COMPANY, ARCHITECTS & ENGINEERS  
BOSTON MASS.



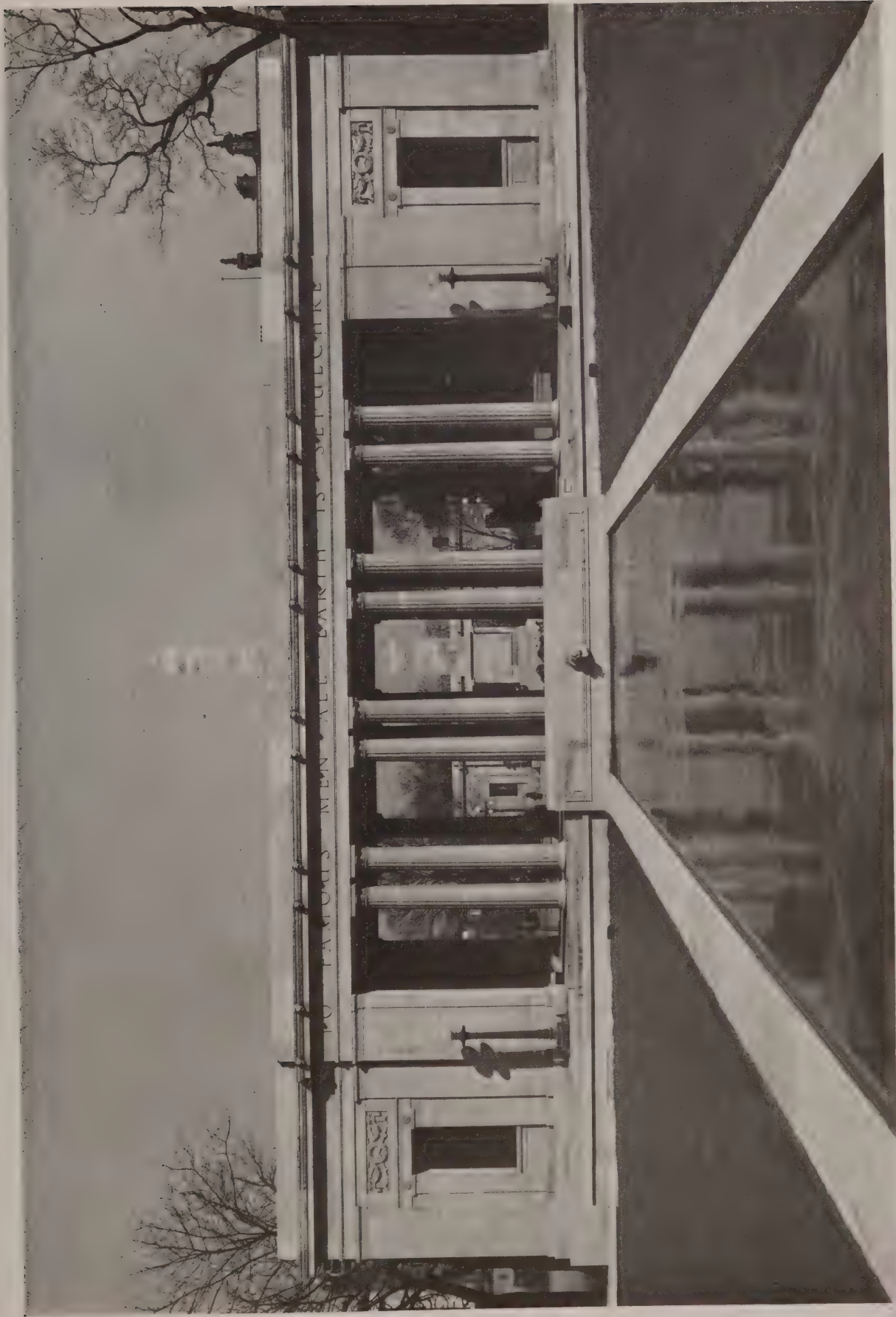
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## The ARCHITECTURAL FORUM DETAILS





WAR MEMORIAL, SOUTHPORT, ENGLAND  
GRAYSON & BARNISH AND A. L. MacMILLAN, ASSOCIATED ARCHITECTS







DETAIL, WAR MEMORIAL, SOUTHPORT, ENGLAND  
GRAYSON & BARNISH AND A. L. MacMILLAN, ASSOCIATED ARCHITECTS







*Photo. George H. Van Ande*

WAR MEMORIAL, RIDGEWOOD, N. J.  
HENRY BACON, ARCHITECT; HENRY HERING, SCULPTOR

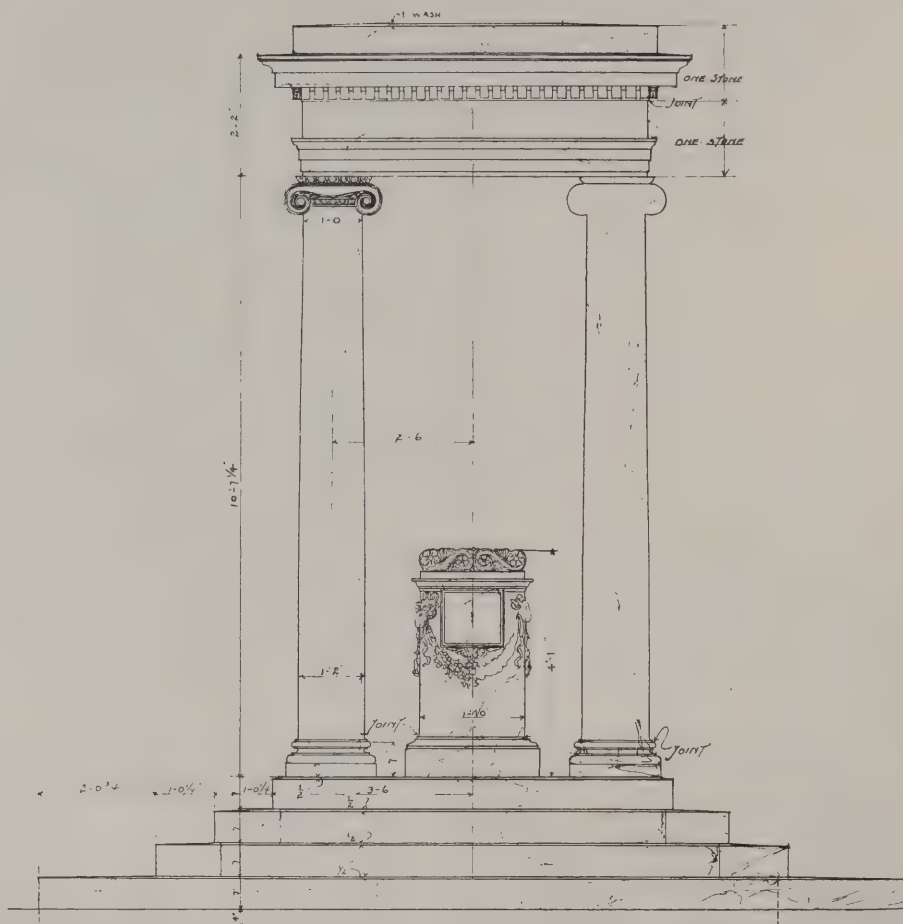




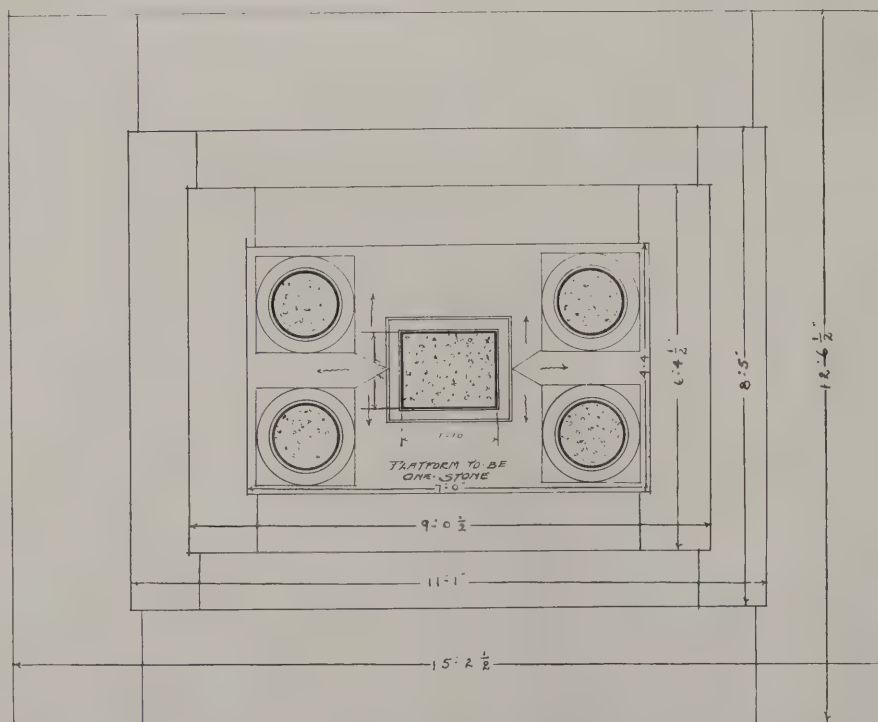


*Elevation and Plans on Back*

MEMORIAL TO AUGUSTUS ST. GAUDENS, CORNISH, N. H.  
DESIGNED BY HENRY HERING, SCULPTOR  
McKIM, MEAD & WHITE, ARCHITECTS



ELEVATION



PLAN

MEMORIAL TO AUGUSTUS ST. GAUDENS, CORNISH, N. H.  
DESIGNED BY HENRY HERING, SCULPTOR  
McKIM, MEAD & WHITE, ARCHITECTS

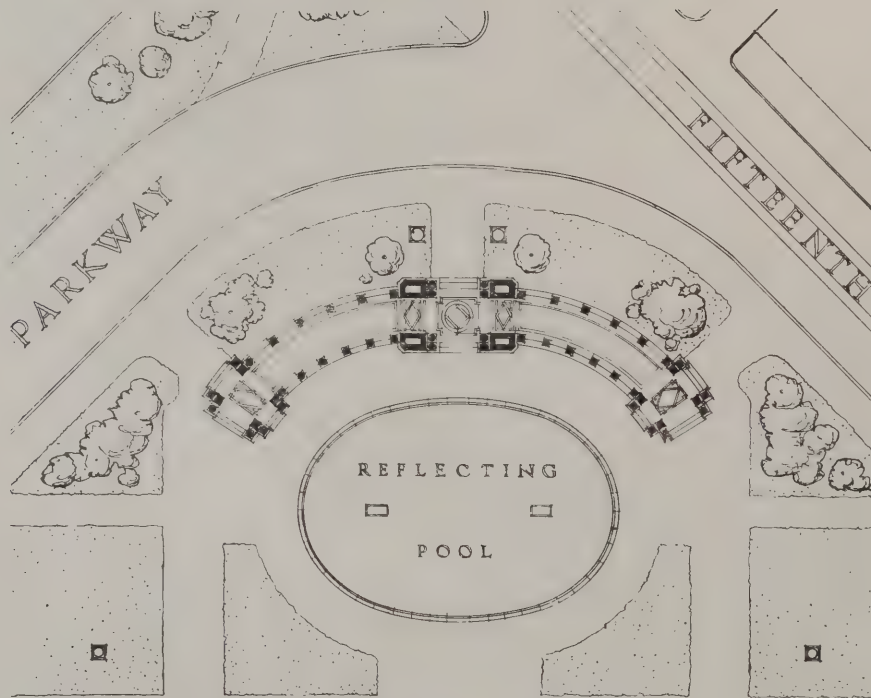
RYO





Plan on Back

VOORHIES MEMORIAL, DENVER  
W. E. & A. A. FISHER, ARCHITECTS



PLOT PLAN, VOORHIES MEMORIAL, DENVER

W. E. & A. A. FISHER, ARCHITECTS





*Photo. George H. Van Anda*

WAR MEMORIAL, ENGLEWOOD, N. J.  
KENNETH W. DALZELL, ARCHITECT; HARRY LEWIS RAUL, SCULPTOR







*Photo. George H. Van Anda*

WAR MEMORIAL, NEW ROCHELLE, N. Y.  
EDMOND T. QUINN, SCULPTOR; LOUIS METCALFE, ARCHITECT







# Bridges as Memorials

By WILLIAM EMERSON

WHAT are the essential characteristics that should find expression in every memorial? Not to put too fine a point upon it, shall we not answer,—durability, serviceability, and beauty?—durability, expressing the material aspect, as does beauty the spiritual, while serviceability introduces that human relation, without which a memorial can never be enduring, withstanding the changes of time.

Does not each of these characteristics find convincing expression in the masonry bridge? Surely its material is durable; time only mellows and adds beauty of color and texture to the original beauty of line. As for serviceability, it is one of the inherent characteristics of a bridge. The bridge is indeed essential to the daily life of both highway and river, whose different uses it serves, helping the one without hindering the other. Beauty, perhaps, is less definitely associated in our minds with the characteristics of a bridge than is either durability or serviceability. That the lack of this last quality is more the fault of our times and our ignorance than of any inherent inappropriateness to the nature of the bridge, is what I shall try to demonstrate. In so doing I hope further to convince the reader of the peculiar suitability of a bridge when established as a memorial.

Lest what follows may appear to have no more weight than a purely personal opinion, and in order that one may agree with me as to the beauty of the bridges that have come down to us from other centuries, let me quote the loving appreciation that M. Victor Laloux, *Membre de l'Institut* and dean of French architects, expressed in regard to the architectural beauty of the bridges of France: "Perhaps there is nothing surprising in this, for does not the very essence of architecture, whether we are intimately or only generally acquainted with it, lie in this haunting quality of beauty? Is there a single constructive problem that the talent of the designer cannot, at a given moment, develop and embellish to the point of profoundly moving us?" And again: "The conscience, talent, and taste which a man like the Burgundian Gauthey has brought to the solution of the most elementary bridge problems, such, for example, as those in the suburbs of Auxerre and of Chalon, show better than any mere theorizing that the purely utilitarian character of a programme imposes upon the constructor neither indifference nor vulgarity." The architect's supreme effort is demanded.

The quality of beauty in these old structures has won recognition from other generations as well.



Old Bridge at St. Genereux, Poitou





Roman Bridge at St. Chamas

Drawn by Louis C. Rosenberg for "Old Bridges of France,"  
Press of the American Institute of Architects

Jean Jacques Rousseau was so moved by his visit to the Pont du Gard that he thus expressed himself: "It was the first work of the Romans which I had seen. I hoped to see a monument worthy of the hands that had raised it; and for the first time in my life my expectations were surpassed by the reality. It belonged only to the Romans to produce such an effect. The aspect of this simple and noble work struck me all the more that it was in the midst of a desert where the silence and solitude increased the effect. . . . I walked along the three stages of this superb construction with a respect that made me almost shrink from treading on it. The echo of my footsteps under the immense arches made me think I could hear the strong voices of the men who had built it. I felt lost like an insect in the immensity of the work. I felt, along with the sense of my own littleness, something nevertheless which seemed to elevate my soul: I said to myself, with a sigh—'O that I had been born a Roman!' I remained several hours in this rapture of contemplation. I came away from it in a kind of dream, and this reverie was not favorable to Mme. de Larnage (the latest of the numerous objects of Rousseau's sentimental attachments). She had been careful to warn me against the attractions of the young women of Montpellier, but not against the Pont du Gard. One cannot think of everything." Thus the old Roman Pont du Gard!

What is it, then, that gives these bridges of Eu-



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Ile de la Cite, Paris, Showing Connecting Bridges  
Pont Neuf at lower left



rope a quality, a spirit, a personality, that with rare exceptions seems lacking in those of our own time and country? Why do the very stones and lines of their compositions inspire our imagination and satisfy our eyes? It is, to my thinking, not alone the historical associations that they recall, nor is it the skill with which they meet the practical purposes that they are intended to serve; but rather, that while meeting the needs of the pedestrian above as well as the boatman below, they are conceived with so true and inherent a love of beauty that they have been thus glorified into masterpieces that are the delight of the centuries,—enduring memorials to the sincerity, ability, and instinctive love of beauty that animated the original builders, but often wanting today.

Let us look at some of the great bridges that the world has inherited;—Spain, France, Italy, Syria, Africa, China,—these and many other countries glory in such treasures; not constructed as memorials, it is true, but built beautifully to meet the needs of their civilization, and lasting today as a lesson from which we might derive infinite profit and delight, but which we tend to ignore. In almost every one of these countries it is the hand of mighty Rome that we recognize. Roads and bridges, waterways and aqueducts, were essential to her Empire building, but lasting beauty was ever a part of the enduring workmanship with which these monuments of her progress were built. There can indeed be no denying



Old Bridge at Montmorillon

Sketch by S. V. Chamberlain for "Old Bridges of France,"  
Press of the American Institute of Architects



© Compagnie Aérienne Française

Pont du Gard, Remoulins





John W. Weeks Memorial Bridge, Cambridge, Mass.  
McKim, Mead & White, Architects

the beauty of these old bridges. Their durability and serviceability are alike attested by their present existence and use. Can we, then, escape the conclusion that the bridge is composite of those qualities that should find expression in every memorial? Does not this conclusion point the way toward the creation in our own time of bridges that are as truly beautiful as they are already durable and serviceable?

The need of bridges as public utilities is infinitely greater now than ever it was in the old world, and this need we have satisfied from the practical stand-

point with great skill; but in doing so we have generally omitted beauty as one of the essential requisites, with the result that our modern bridges only half fulfill their possibilities. May we not, in consequence, decide that in that which is useful there lies hidden the very germ or essence of beauty? Any museum showing the utensils of the Egyptians, Greeks and Romans reveals how much thought they gave to making these humble accompaniments of their daily lives a delight to behold without impairing in the least their usefulness. We, in the hurry



Lt. Richard Mortimer, Jr., Memorial Bridge, Hamilton, Mass.  
Peabody, Wilson & Brown, Architects; Ralph W. Gray, Associated





Memorial Bridge Across the Potomac at Arlington, Va.  
McKim, Mead & White, Architects

of our modern lives, are likely to find a place for beauty only when we are convinced that it will add to our incomes or to our importance. Its intrinsic excellence is little recognized. So with our bridges; the great proportion of those with which we are familiar are so exclusively utilitarian that there is no suggestion of beauty about them. They serve their purpose,—which is well,—but is it enough? Do they add dignity to the approaches of our great cities? Infrequently. Those that do so form a group of rare distinction. Do they add any line of

beauty to their surroundings? Do they offer to our citizens any inducement to add to the beauty of their own lives? Do they, in sooth, inspire the beholder with any loftier vision, any finer conception of life? Very rarely. And yet, I hold that they may; and that in their very nature lurk untried possibilities, all but infinite in their variety, and so full of suggestion and inspiration as to tempt the imagination of our ablest designers. In these times a little thought will insure to the bridge its place, not merely as a utility that in a purely mechanical and rather un-



Memorial Bridge to Charles Eliot, Blue Hill Reservation, Boston  
Designed by Arthur A. Shurtleff and A. W. Longfellow in consultation with Frederick Law Olmsted

lovely way serves its purpose, but as a thing of beauty and a source of pride, meeting the needs of a growing city and at the same time offering a most inspiring subject for the creative genius of the modern architect. It is an opportunity full of possibilities.

The world at large since the period of the Armistice has sought something that might best symbolize the spirit that animated those who freely gave their lives in the hope that their countries might live in peace. Every sort of war memorial has been erected, each and every one doubtless dedicated to the same spirit, but showing such variety of solutions and, in many instances, such hopeless ugliness of form, as to make the observer wish that he might have been left with his own mental picture of the spirit that was to be symbolized rather than the sad travesty on beauty that confronts him in a material so durable as to offer little hope of its early dissolution. May not, then, a bridge be in many instances an appropriate alternative? It would solve many a problem.

That there is a growing recognition of the suitability of the bridge as a memorial by engineers as well as by architects is apparent from some of the illustrations that we include here. How nobly the bridge at Arlington, Va., immortalizes the sacrifices made in our Civil War! What a graceful addition to the growing group of Harvard's buildings is the

John W. Weeks Memorial Bridge! With this the earlier Larz Anderson Memorial Bridge introduces a most harmonious and suitable note between the Colonial college buildings on the one hand and the modern stadium on the other. Springfield, Mass., may well be proud of its bridge across the Connecticut River, a memorial to the citizens of Hampden County who gave their lives or means that the city might prosper. The memorial to Charles Eliot is a particularly appealing and appropriate piece of work,—a lasting tribute to the foresight of a landscape architect, set in the surroundings which his vision had secured for the enjoyment of the public.

At Hamilton, Mass., is perhaps the most perfect solution that we have found. This bridge could hardly be better suited to the lines of the road and stream, or more charmingly suggestive of its memorial purpose. These smaller bridges are excellent examples of the intimate character that may so properly find expression in a memorial, and are convincing evidence that it is not necessary for a bridge to be large to be effective from any point of view.

In addition to the three characteristics that we have found essential in any memorial, we should note how perfectly the best of these bridges, whether old or new, harmonize with their surroundings, and how essential it is that in our admiration for the past we



Larz Anderson Memorial Bridge, Cambridge, Mass.

Haven & Hoyt, Architects



should avoid the repetition of features that are of only archæological interest. We should bend our energies to insure the solution of our problem first as a bridge problem, and then to incorporate with it the memorial character, which is highly important.

See how perfectly the bridge at Montmorillon, in France, lends itself to the conformation and character of the town beside it! It seems to become an integral part of it! What distinction and beauty are expressed in the old Roman bridge at Saint Chamas! Incidentally, how appropriate are its triumphal arches for use in a memorial! The leisurely repetition of the arches in the bridge at Saint Genoux is perfectly in keeping with the quiet country side and the half-hidden church with which it is composed.

Limitations of space preclude the showing of other examples, but many handsome modern bridges exist in this country, such as that at Harrisburg, Pa., and the railroad bridge over Hell Gate, in New York, which have been studied and achieved with a fine feeling for beauty. Together with these accomplishments there should be mentioned the excellent policy adopted by many of our park commissions of adding to the beauty of the landscape by securing carefully studied bridge designs across waterways. The work of the Metropolitan Park Commission of Boston affords a notable and most successful instance. Nor

should we fail to mention the efforts of individuals who through their positions in the community and through never hesitating to voice their convictions have been a power for progress on the lines that we have suggested. Such a one was Colonel William A. Hayes, of Cambridge, Mass., whose belief in the suitability of a bridge for memorial purposes he never failed to express, urging its appropriateness particularly as a Harvard war memorial.

Those who would look further into the possibilities of bridges as memorials I refer to the suggestive etchings and water colors of Brangwyn, to the masterly water colors of Vignal, or to the sketches of Rosenberg and Chamberlain. Perhaps no one has recognized how manifold and fascinating are these possibilities from the point of view of composition better than the English etcher, F. L. Griggs. His architectural training, coupled with a fertile imagination, has taught him how to combine the simple bridge elements in great variety, with marvelous results.

In conclusion, let us realize that although practical necessities, aside from any consideration of beauty, are even more exacting in bridge building than in other architectural problems, it is often in the satisfying of these requirements that we find the very essence of our problem. In frankly meeting the practical we often discover the truly beautiful.



Memorial Bridge at Springfield, Mass.  
Fay, Spofford & Thorndike, Designing and Supervising Engineers  
Haven & Hoyt, Advising Architects





In Remembrance of Charles Edward Mallows, and to Sybil Lindsey Mallows

Courtesy of Kennedy & Co.

BRIDGE COMPOSITION  
FROM AN ETCHING BY F. L. GRIGGS



# Royal Artillery Monument, London

ADAMS, HOLDEN & PIERSON, Architects

C. S. JAGGER, Sculptor

THIS is one of the most interesting of the numerous splendid war memorials and monuments which have been erected in England during the past eight years. Both in mass and detail this memorial has great appeal. The interesting bas-reliefs showing artillery in action, as well as the model of the latest type of cannon which surmounts the monument, are executed in the same stone as the bulk of the memorial itself, which gives a consistency and solidity to the entire design, and creates a suitable background for the several bronze figures, executed in heroic size, which ornament each face of the monument. Although the scale of the sculptured bas-relief is only life size, no inconsistency is felt because these bas-reliefs are treated as a decorative frieze on the monument itself. The inscriptions themselves form one of the chief decorative features. The price of valor is suggested by the heroic bronze figure of the dead artillery man.



Two Views of the Royal Artillery Monument, London





White Memorial Fountain, Public Garden, Boston  
Henry Bacon, Architect; Daniel C. French, Sculptor



Spencer Trask Memorial, Saratoga Springs, N. Y.  
Henry Bacon, Architect; Daniel C. French, Sculptor



# The Relation of Sculpture to Architecture

By CHARLES O. CORNELIUS

OF the many arts which contribute to the major art of architecture, none seems to present to its creators such difficult problems for solution as does that of architectural sculpture. At the same time there is no element in the composition of a complete architectural design which is of greater importance to the whole.

There must indeed be reasons why so many failures have been registered among the increasing number of examples of building in which architectural sculpture plays an essential part. The chief of these would seem to be a divergence between the points of view of the architect and the sculptor. The architect thinks primarily in terms of constructional composition,—part precisely related to part. The whole composition is built up in his mind not only as a pattern in light and shade or in voids and solids but also as a primary scheme upon a basis of weight and support. He thinks chiefly in terms of form and of light and shade. The sculptor, on the other hand, is a rather free agent, usually expressing himself in his work. The limitations of an architectural setting often hamper him and hinder to some extent the full swing of his genius. If, on the other hand, these limitations are not imposed, he is likely to go the full limit of the conception which is in his mind, interrupting perhaps the movement of the general design. On one hand we have the architect, to whom the sculpture is an enrichment for his building; on the other the sculptor for whom the building is a setting for his sculpture. It is a happy medium between these two which produces the finest results,—the sculptor working untrammelled, but conscious none the less of the limitations and requirements of his problem; the architect in his design properly placing the decorative sculpture so that it contributes to his structural design as a whole. The placing of the sculpture is chiefly the architect's province. Here too many mistakes are made, the decorative relief frequently serving to negative the structural composition.

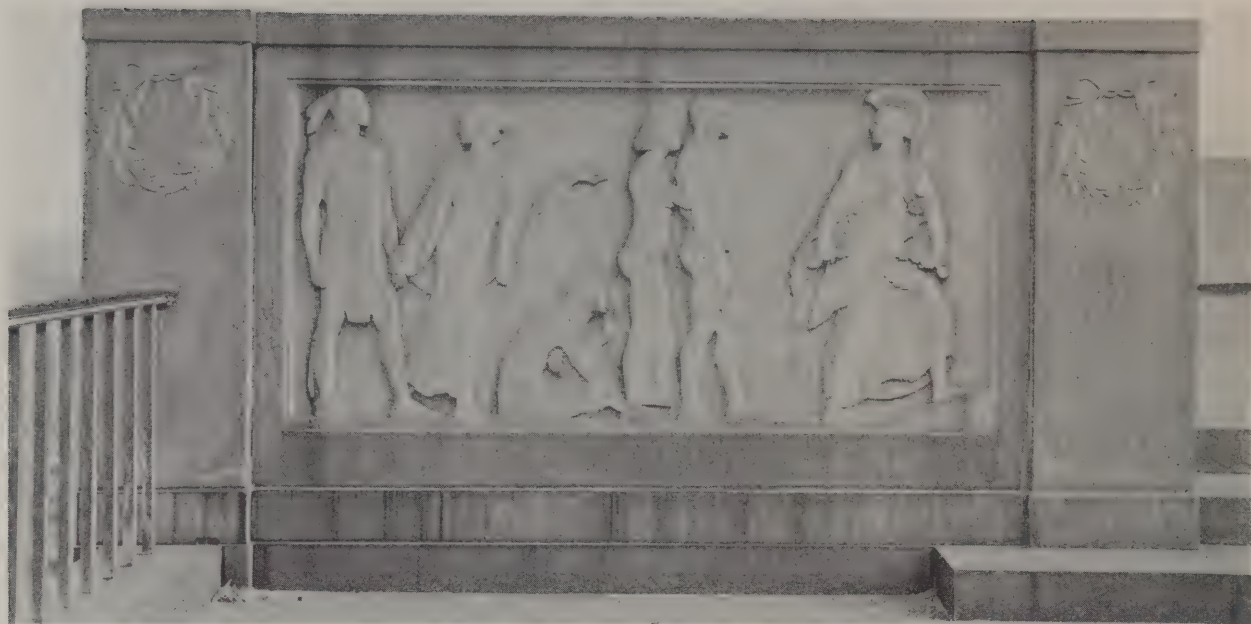
There are two general basic requirements to be met in the creation of good architectural sculpture. The first of these is the accurate relation between the sculpture itself and the architectural design of which it forms a part. The degree of its relief, its mass and form, its pattern in light and shade must all harmonize with certain lines and proportions, and with the scale and mass of the main composition. Secondly, the idea expressed by the sculpture, usually an abstract idea, should be clearly yet subtly suggested, and its connection with the uses of the building should be quite definite and apparent.

There is endless precedent for the placing as well as for the character of the sculptured work which is directly architectural. Perhaps a higher percentage of successes may be found in Greek work than in any other, although even here we must admit degrees of successfulness. The metope sculpture would seem to be almost always adequate. The cella frieze of the Parthenon and the drums of the columns at Ephesus are almost flawless and perfectly fresh creations. Pediment sculpture is not always equally successful. Tomb and theater reliefs are generally spirited and full of definite architectural character.

In much of the Greek work there is a surprising freedom of treatment within the limitations of the general design. The observance of basic lines or directions of the design seems only to have inspired a greater intensity in the sculptor. In Gothic usage the sculpture is more cramped by the architecture. Expressing a different approach and point of view, it is none the less equally successful. There probably remain to us today a greater number of examples of completely satisfying architectural sculpture in Gothic form than in any other. The hieratic tradition which carries into this Gothic sculpture is peculiarly suited to the structural feeling of the architecture. The formalized and restrained expression of emotion in the figures, the quaint grotesquery of the animals are all contributing influences.



Carl Schurz Memorial, New York  
Henry Bacon, Architect, Karl Bitter, Sculptor



Panel on Carl Schurz Memorial, New York  
Henry Bacon, Architect; Karl Bitter, Sculptor

The first requirement for the successful use of architectural sculpture, that of its relation to the building behind it, is controlled by the architect. He has here opportunities of emphasizing vertical or horizontal lines in his design, of accenting particular points or areas, and of gaining richer coloristic effects in light or shade. Often a too insistent vertical may be softened by the sculpture, or an exaggerated horizontal broken up at proper points. A subtle building up of mass is achieved by proper sculptural grouping. All of this sculptural treatment is closely associated with the carving. The sculpture and carv-

ing should be distinct, the latter,—usually of repeated motifs and seldom possessing any other than a decorative idea,—emphasizes the architectural lines.

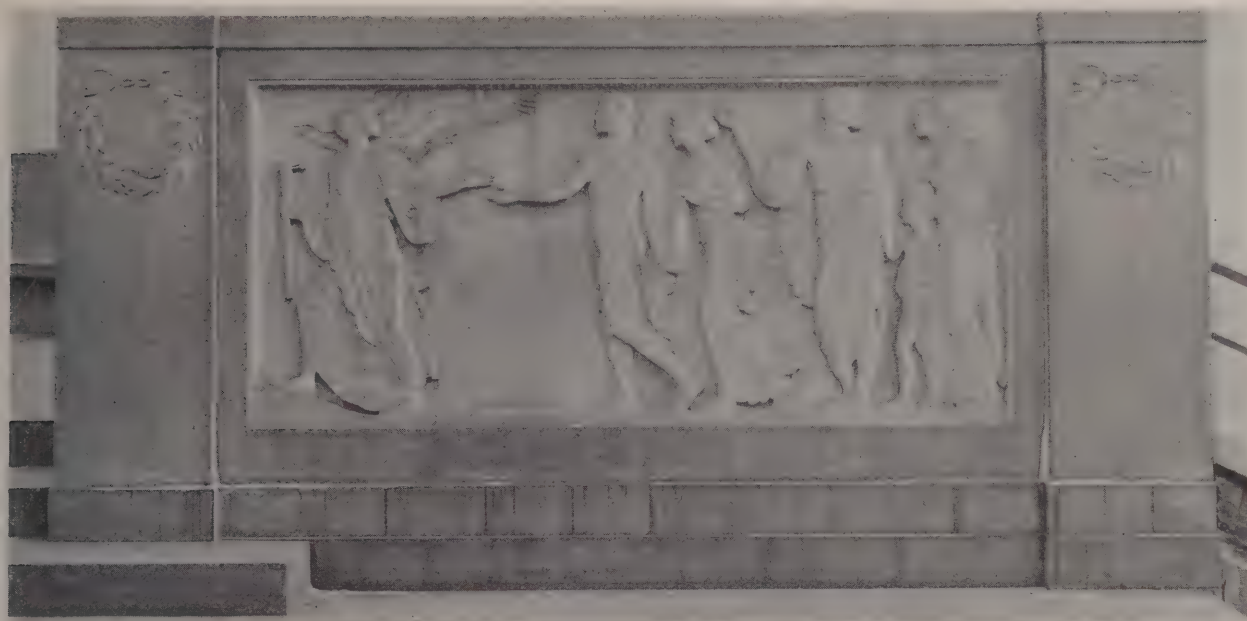
If we can form any conclusions from the past to serve as a guide for the future, we may say that sculpture, when not used for itself alone, has been best placed in some position not primarily structural. The Greeks are seen using it most successfully in metopes,—spaces originally between beam ends which merely formed screens against the weather. The same is true of the great pediment sculpture of that nation. In tomb sculpture even less structural consid-



*Courtesy of H. H. Martyn & Co., Ltd.*

War Memorial, Salisbury





Panel on Carl Schurz Memorial, New York  
Henry Bacon, Architect; Karl Bitter, Sculptor

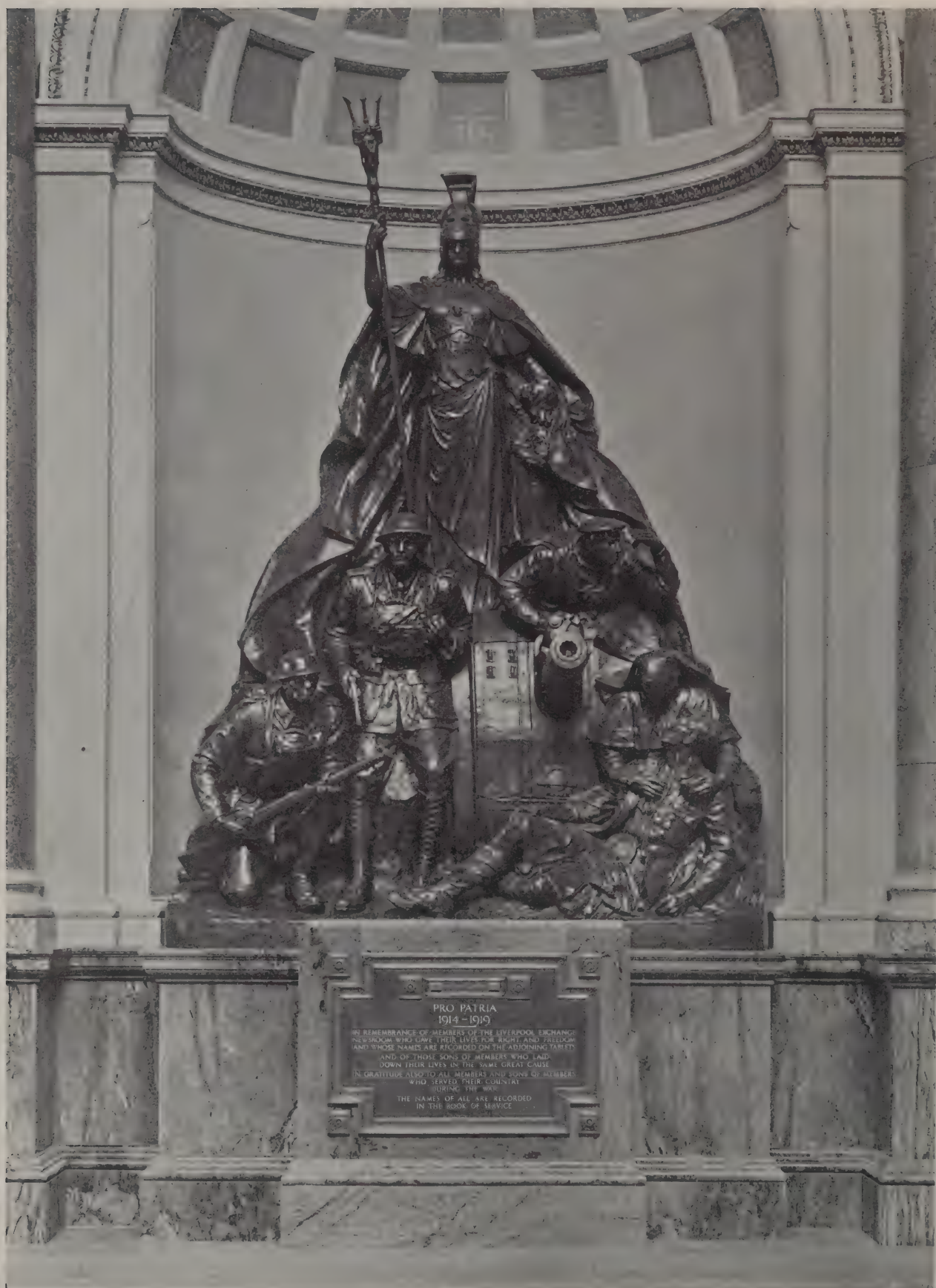
eration is required. In panels such as those on the Tower of the Winds, we again have pure decoration on a screen wall just as we have it in the Athenaic frieze of the Parthenon. Architecturally less successful than these treatments is the use of the caryatid where peculiar beauty or effectiveness lies in other qualities. In the Gothic usage this deduction holds true to a large extent. The many exquisite statues about great portals or across facades are set with architectural enframing. Gargoyles project where variety in line or silhouette of mass is desired. Finials rising high above a buttress or roof line may carry

some soaring figure. This, then, is one conclusion to be drawn,—that sculpture in itself is not a strength-giving element. It is rather an adjunct which may be employed to increase or subtract from the strength-giving elements of the main architectural design.

Now as to methods in which this can be achieved. Standing off some distance from the sculpture, we may observe that the form of the main mass will serve to emphasize some subtle balance or proportion of the design behind it. Coming closer we will note that the predominating lines of the piece will carry out those of the architectural design, whether



New York State Memorial, Gettysburg Battlefield  
Edward P. Casey, Architect



Courtesy of H. H. Martyn & Co., Ltd.

© Stewart Bale

WAR MEMORIAL TO MEMBERS, LIVERPOOL EXCHANGE NEWSROOM  
W. P. HORSBURGH, ARCHITECT





VICTORY MEMORIAL, CAMBRIDGE, ENGLAND  
R. TAIT McKENZIE, ARCHITECT

actually modeled in light and shade or more subtly suggested in the natural line of support of the group or figure. This will hold true whether the sculpture is free-standing, set against a facade or crowning its cornice, or whether it is in panel form breaking up into a certain tonality the surface of a screen wall. The actual treatment of the surfaces comes into this part of the discussion. One of the first requirements is a certain degree of formalization of pattern. Pure, free realism, while often splendidly gay used in connection with architecture, cannot well be made an essential element in so formalized an art. Formalization calls for simplification not only of form and line but also of surface. Broad surfaces of light throwing fine surfaces of shadow are requisite.

Too literal a following of such general ideas as are expressed here can lead only to insipidity. It is merely as a general thought that they are offered. When we think of some of the great architectural sculpture of the eighteenth century in France or that of the Baroque in Italy, we find what would seem to be almost a complete contradiction to our general conclusions. Yet upon closer examination we would find that the same general ideas would hold true, though perhaps interpreted on a special scale. Scale plays a very important part in architectural sculpture. A sculptural motif can often be brought into harmony with its adjacent architecture by a proper employment of scale in its modeling.

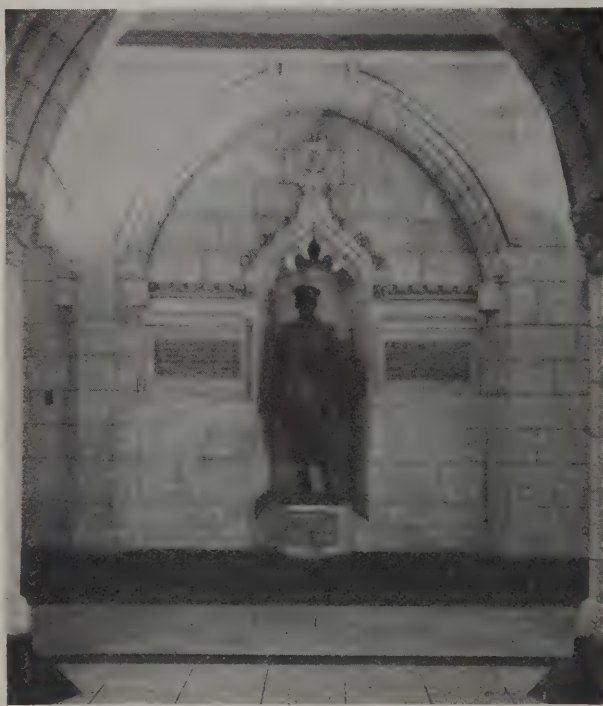
The abstract idea expressed by the sculpture calls less upon architectural than upon literary and iconographic knowledge. We may have representative scenes, such as the Egyptian, or semi-representative or allegorical, such as the Greek. Here figures are shown, usually in repose, but suggesting by their

juxtaposition some idea associated with their place in the history of religion or thought. Actual characters from history or mythology may suggest the abstract qualities which are associated with them in men's minds. Often, in such types of sculpture, inscriptions must identify the characters. Another usual method is the personification of abstract qualities such as Justice or Probity,—figures equipped with attributes which identify them to the knowing. Much of modern subject matter in architectural sculpture is based upon either classical mythology or upon Christian iconography, both frequently interpreted from Renaissance models.

More intelligible, even if less subtle, is the personification of abstract qualities or the representation of the arts and sciences whose attributes are a clue to their identity. Association of ideas, too, is utilized in applying motifs whose repeated use in the past has led to their association with certain buildings devoted to special uses. In the purely modern school it seems possible to dispense with any very precise ideas, relying more upon the pure æsthetic pleasure to carry the design. Spirited dancing figures or musicians at play seem adequate both from the point of view of design and meaning to express the uses of many buildings. Mourning figures or others in dignified procession might express an opposite extreme of feeling. This idea, while finding its place in modern usage, is nothing new, but a carrying on of the finest conceptions of ancient times. The famous balcony of musicians, for which Donatello is responsible, the Pisan pulpits, the tombs of the Dukes of Burgundy all express in sculptured form the sensations of joy or grief combined with an abstract quality of beauty which gives its own thrill.



Lafayette Memorial, Prospect Park, Brooklyn  
Henry Bacon, Architect; Daniel C. French, Sculptor



Baker Memorial, Parliament Buildings, Ottawa  
R. Tait McKenzie, Architect

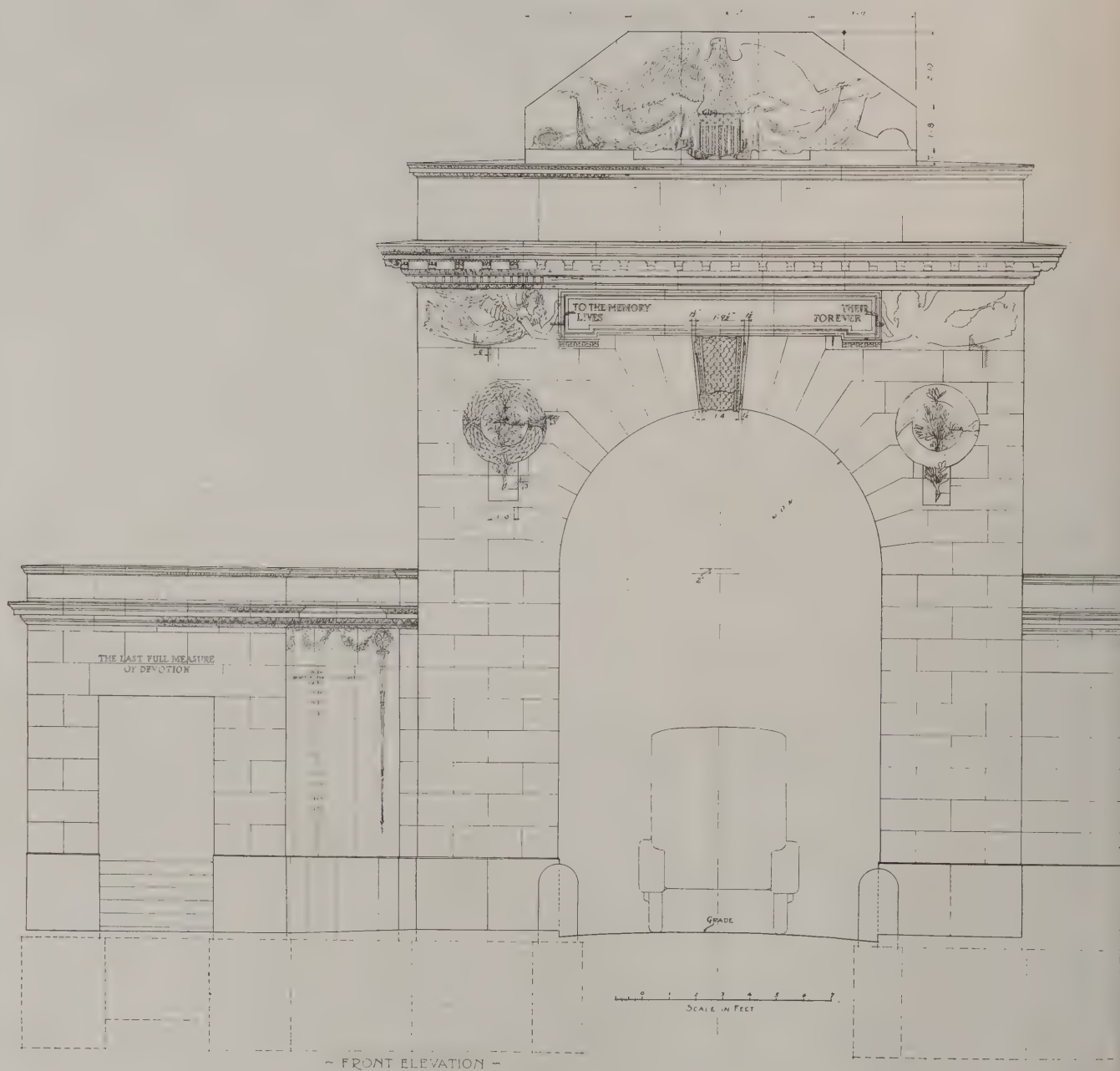




*Photo. Paul J. Weber*

SOLDIERS' GATE, BROWN UNIVERSITY, PROVIDENCE  
COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS

*Measured Details on Back*



DEC  
1926

DETAILS, SOLDIERS' GATE, BROWN UNIVERSITY, PROVIDENCE  
COOLIDGE, SHEPLEY, BULFINCH & ABBOTT, ARCHITECTS

No.  
15

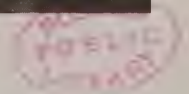
The ARCHITECTURAL FORUM DETAILS





WAR MEMORIAL, BURY, LANCASHIRE

SIR REGINALD BLOMFIELD, ARCHITECT; HERMAN CAWTHRA, SCULPTOR







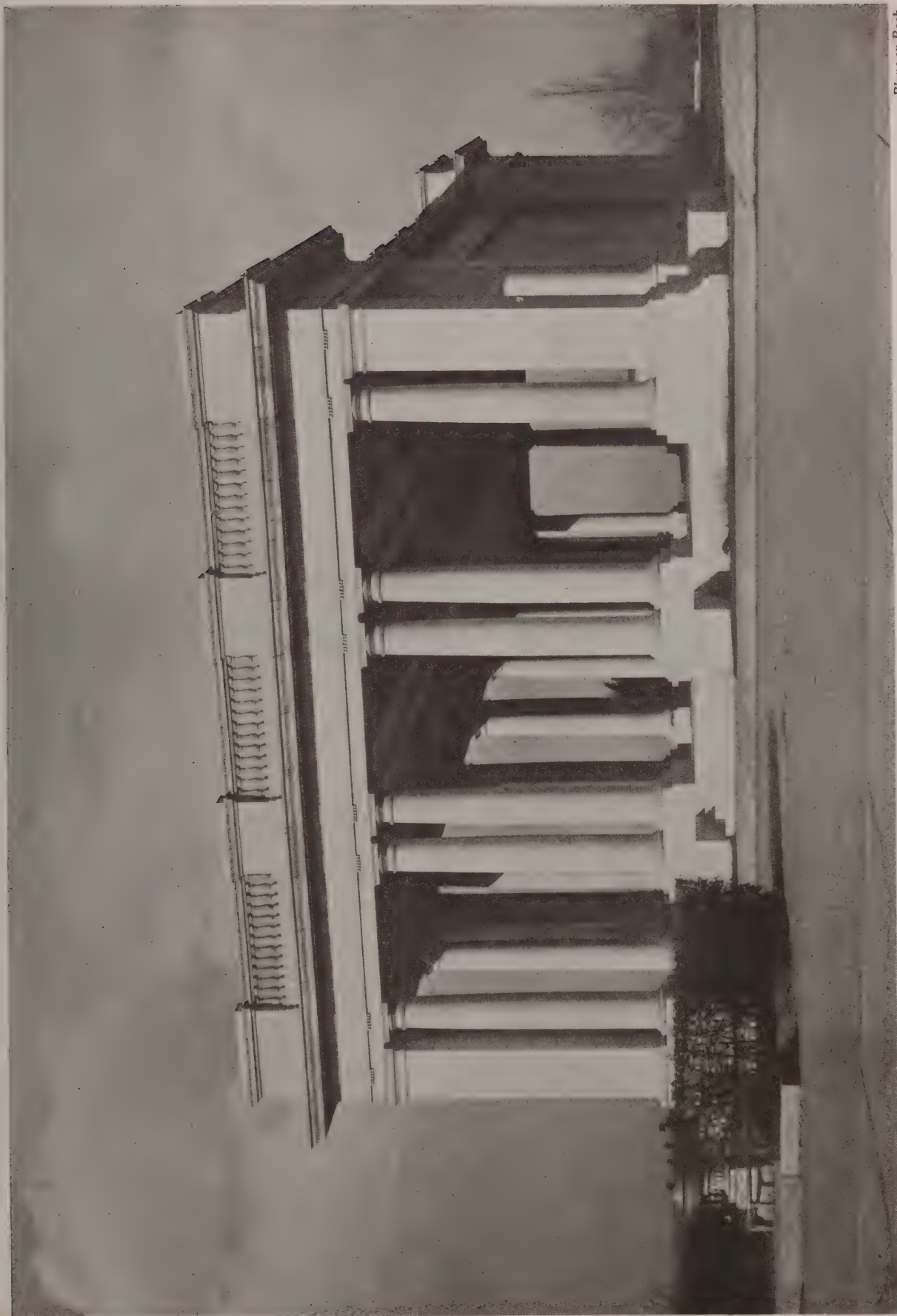
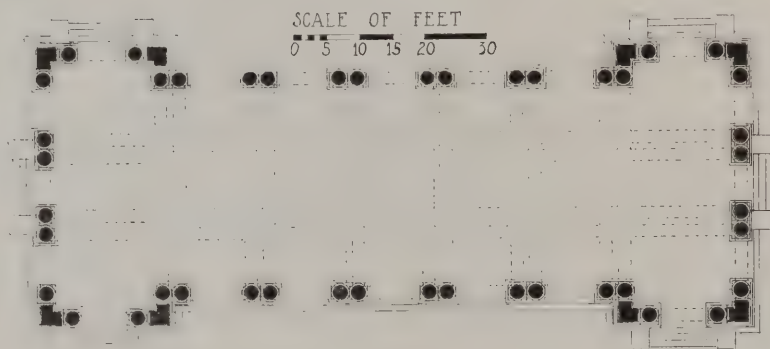


Photo. C. B. Cooper

CHEESMAN MEMORIAL PAVILION, DENVER  
MAREAN & NORTON, ARCHITECTS

Plans on Back

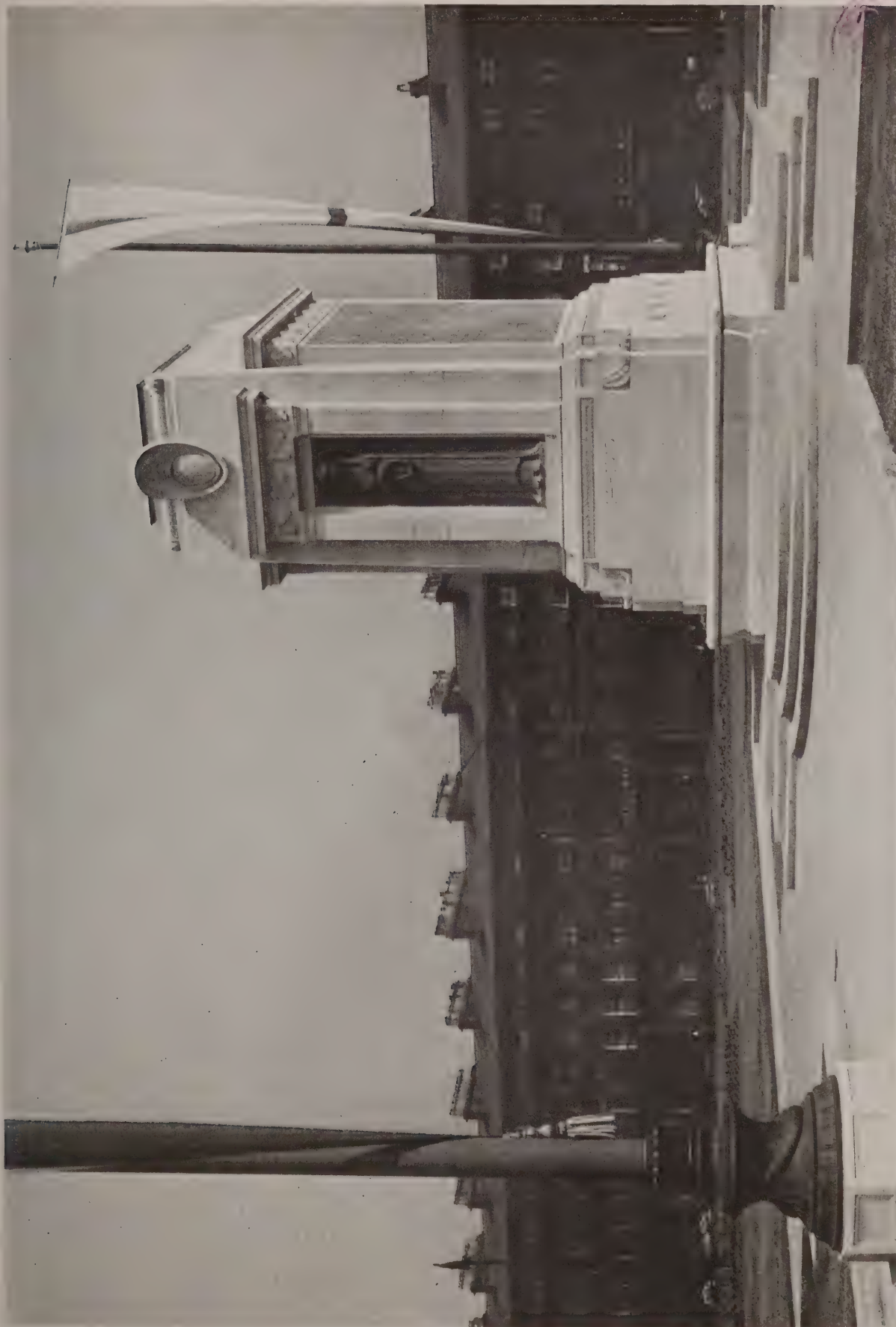


PLAN, CHEESMAN MEMORIAL PAVILION, DENVER

MAREAN & NORTON, ARCHITECTS







WAR MEMORIAL, BIRKENHEAD, ENGLAND  
LIONEL B. BUDDEN, ARCHITECT







*Photo. George H. Van Anda*

STATUE OF FRANCIS ASBURY, DREW THEOLOGICAL SEMINARY, MADISON, N. J.  
AUGUSTUS LUKEMAN, SCULPTOR







WAR MEMORIAL, EXETER, N. H.  
HENRY BACON, ARCHITECT; DANIEL C. FRENCH, SCULPTOR



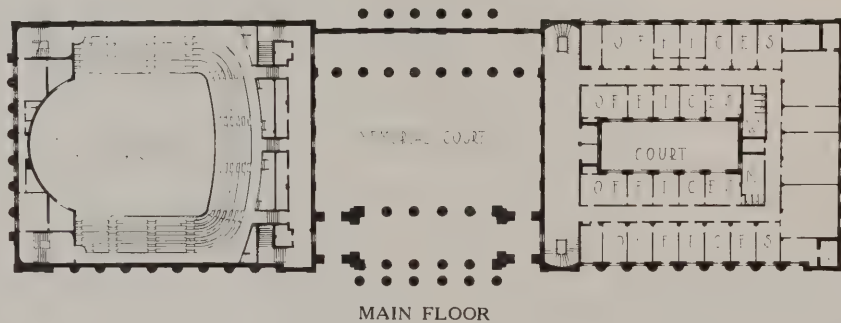




*Photo. Tebbs & Knell*

TENNESSEE WAR MEMORIAL, NASHVILLE  
EDWARD DOUGHERTY AND McKIM, MEAD & WHITE, ASSOCIATED ARCHITECTS

*Plans on Back*



# PLANS, TENNESSEE WAR MEMORIAL, NASHVILLE

EDWARD DOUGHERTY AND McKIM, MEAD & WHITE, ASSOCIATED ARCHITECTS





*Photo, Wurts Bros.*

WAR MEMORIAL TABLET, CHAPEL OF THE INTERCESSION, NEW YORK  
BERTRAM GROSVENOR GOODHUE, ARCHITECT





# The Winchester College War Cloister

By SIR HERBERT BAKER, Architect

ALL the war memorials at Winchester are of one type; they are memorials pure and simple, making but one direct appeal; they have been designed not to serve any practical purpose but to consecrate a part of our daily way to or from school or chapel, so that those who run may read.

The War Cloister, which commemorates the Great War, is built upon the lines of Wykehamical tradition and in close connection with the South African War Gate; together they form a *Via Sacra* for commoners, leading to work and worship. William of Wykeham made magnificent provision of gateways and courts for his 70 scholars; but he could not foresee that in the twentieth century five-sixths of the school would be living outside his original precincts. Fortunately commoners still come there day by day to worship in chapel or chantry, and the cloisters have become accessible to all. Great and simple architecture has a direct message for youth as well as for age, and it exercises an untold influence upon those who live under its spell. Therefore it seemed right, in commemorating the greatest event in our history, to endeavor to correct the architectural balance between college and commoners and between the east and the west side of "Meads." This was done by removing some unsightly buildings which hid the old flint wall, and by raising in their place a greater "Commoner Gate" in the form of a War Cloister, which harmonizes in material and design with the spirit of the founder's work. While these changes do much to enhance the beauty of Meads, which is the special garden of college men, they add even more to the heritage of commoners, who during centuries to come will pass through the War Cloister many times a day.

The new building confronts, but does not attempt to challenge, Wykeham's peerless cloister; they are both flint-faced, stone-dressed and bonded, roofed with oak, and are approximately of the same dimensions; but the resemblance ends there; they have nothing in common in general style or in detail of structure. Although a cloister in shape and suggestion, gaining in dignity and repose from the fact, our memorial differs, both in use and association, from the normal Gothic cloister. It will be used less as a place of rest or meditation than as a thoroughfare, and its associations are all of a special kind. Its architecture, sculpture, heraldry, and symbolism all



Garth, Winchester College Memorial  
Sir Herbert Baker, Architect

tell how the fellowship of Wykehamists was merged, by service and sacrifice, in the unity of the British Empire and allied nations in the memorable years of War.

The exceptional character of the War Cloister is expressed by the original style of its architecture. It has round arches which rest on simple pillars set in pairs to bear the roof stresses, and on each of three sides there

are two buttresses to carry the thrusts of the arched roof trusses inside. The style is not so much eclectic as elemental; the forms are simple and austere and depend for their beauty upon proportions, texture and color. Four ashlar-faced domes occupy the corners of the Cloister and are dedicated to the greater dominions and to India, whose quick response and heroic service stirred the heart of Great Britain. It is a great tribute, though no tribute could be too great to commemorate their valor. Use of the flintwork, with which the inner as well as the outer walls of the Cloister are faced, is an original treatment, and forms a beautiful background for the stone arches and marble columns as seen from the open garth, and a rich setting for the interior gems of arms, symbols, inscriptions, bas-reliefs, and name tablets. A narrow bed of flowers, in which roses and lilies predominate, makes a fringe to the grass squares where they touch the arcades. The main entrance, that from Meads, is a circular arch 15 feet high; a pair of iron gates has been wrought for it, but they are seldom closed in term time. Above the arch is a gable containing a niche with a statue of the Virgin and Child, and her monogram is inlaid in flintwork. On either side is a tablet; one records the fact that the foundation stone was laid July 15, 1922, and the other the fact that the Cloister was opened May 31, 1924.

Most of the shaped stones which formed the face of the old wall opposite the racquet court and museum, or were found buried in its core, are used as bonding stones in the new flint walls, while a few interesting pieces of moulded and carved stone have been placed in the museum. There are some "temples" among them, and there are others in the long piece of Wykeham's wall, which was hidden behind the squash racquet court and has now been repaired and strengthened; all these were relighted for the first time after many years at "illumina" in December, 1923. There has been excellent use of old material.

The other chief entrance is in the southwest cor-



Detail, Winchester College Memorial

ner. Commoners enter by the South African War Gate from Kingsgate Street and look through a high round-arched doorway directly down the south gallery of the Cloister. They tread exactly the same path which commoners have long been treading. There is a little forecourt, ten yards in length, with the entrance to the armory on the right and on the left a stone tablet set in the old wall. It bears famous words from Pilgrim's Progress: "Then said he, 'My sword I give to him that shall succeed me in my pilgrimage, and my courage and skill to him that can get it. My marks and scars I carry with me, to be a witness for me that I have fought His battles Who will now be my Rewarder.' So he passed over, and all the trumpets sounded for him on the other side." The four lion heads placed right and left in this open

court were discovered embedded in the stone wall. Above the doorway, by His Majesty's gracious permission, are placed the royal arms. The large door and the small blocked doorway in the northwest corner have been provided to connect the Cloister with school buildings which may some day be built on the north side. The remaining door, on the south side, the "Door of Victory," leads to the racquet court, the gymnasium, and the college sick house.

Inside the Cloister, the center and circumference both strike the note of Christian sacrifice. Where the four paved ways of the garth meet between the grass squares there is an octagonal monolith, inscribed "*Esto fidelis usque ad mortem et dabo tibi coronam vitæ.*" From this base a stone shaft rises, crowned with a cross inscribed in Greek, "Christ is risen," while two sentinel crusaders, facing east and west, guard the symbol of sacrifice. The long inscription of solid stone letters set in a background of knapped flints forms the circumference and runs right round the Cloister in a continuous band 9 feet from the ground. It

is not an inscription in the usual sense of the word, but a prose poem, which fell naturally into Biblical language. The Lombardic script has been designed, with much labor and skill, to suit the special qualities of flintwork. The words are these: "Thanks be to God for the service of these five hundred Wykehamists, who were found faithful unto death amid the manifold chances of the Great War. In the day of battle they forgot not God, Who created them to do His will, nor their country, the stronghold of freedom, nor their school, the mother of godliness and discipline. Strong in this threefold faith they went forth from home and kindred to the battle fields of the world, and treading the path of duty and sacrifice laid down their lives for mankind. Thou, therefore, for whom they died, seek not thine



own, but serve as they served, and in peace or in war bear thyself ever as Christ's soldier, gentle in all things, valiant in action, steadfast in adversity." Such are the lines.

Round the garth, in the spaces between the arches, are arms and badges, symbols of all the national thoughts and home thoughts which haunted and inspired our soldiers in the war. On the east side, the arms of the four nations—England, Scotland, Ireland and Wales—occupy pride of place, and the four national emblems, rose, thistle, shamrock and leek, are set right and left of them. As we come westward, there are (in pairs) facing one another, badges of the royal navy and the mercantile marine; of the infantry and the artillery; of the flying corps and the Red Cross; of rewards of valor (typified by the V. C.) and high command (typified by the crossed baton and sword of a lieutenant-general); of foreign policy (represented by the arms of Lord Grey of Fallodon, Foreign Secretary) and government of the empire (by the arms of Lord Chelmsford, Viceroy of India). Toward the west, in the center are the arms of William of Wykeham and of the see of Winchester; right and left, the arms of the city of Winchester and a symbolic device for Hampshire; the arms of the universities of Oxford and Cambridge; and finally, as representing the school at this epoch, the arms of Lord Selborne, warden (1920-1925), and of Dr. Rendall, head master (1911-1924). On the inside walls are built tablets of gray Derbyshire marble inscribed with the names of the 500 Wykehamists who fell in the war,—16 tablets in all, grouped in pairs, between each pair a stone recording the great battles of the war. Above stand the arms of the allied nations, and the leopard of England is linked with them in cords of friendship.

Among the stones which bond the flint facing to



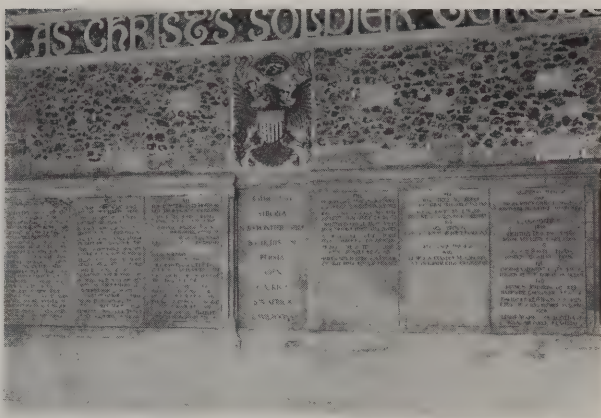
Entrance, Winchester College Memorial

the core of the wall are larger and more regular stones carved in low relief—like the little stone shields on either side of the porch of the college sick house—representing the arms of the dominions and the provinces of India and symbols of the dependencies, groups of dependencies, islands, and mandatory states of the empire, and also some battlefield areas outside the territories of the allies. These symbols, like the arms recently granted to the provinces of India and here displayed for the first time, attempt to express historical, geographical, mythological, and other dominant facts and influences of those portions of the empire. The four corners of the Cloister are dedicated to dominions, colonies, and India. They are vaulted with stone domes, their keystones being carved with the imperial emblems. In the pavement are



large circular slabs, which have been quarried in the dominions of India and generously given for the memorial by their governments. Inlaid in these paving slabs are symbols in brass to be polished into gold by the feet of the future centuries' generations of Wykehamists.

Badges of 120 regiments, in which the 500 Wykehamists served, are blazoned on the corbels and tie beams of the roof; the remaining four badges, which belong to the regiments most closely associated with Winchester, are carried by angels on the oak struts of the roof over the arches. On other struts shaped as angels and on the bosses, where the curved roof trusses meet, are other carved symbols. There are two sculptured reliefs, of Victory and Peace, opposite each other at the center on the north and south walls. For a general system of low-toned illumination, electric lights are set high up in the walls behind pierced stones, in the manner of the traditional "temples." Provision has been made for hanging lanterns, if required, from the roof beams. In the outside north wall, close to the northeast angle, stands a craftsmen's stone, recording the names of the architect,—Sir Herbert Baker, A.R.A.; and the sculptor and carver,—Alfred Turner, A.R.A., who, under the generous instruc-



Wall Tablets, Winchester College Memorial

tions of the builders, Messrs. Holloway Brothers, treated the interests of his employers and the school as one. Below the names are carved the words: "*Non sibi sed Deo et mortuis.*"

There are others who must not be forgotten; it was a joy to all at Winchester to see the foundation, a raft of steel-enforced concrete, laid deep and strong; to watch the walls rising

day by day, hour by hour; to mark the swift and continuous growth of this building. But most pleasant of all was it to observe the energy and pride which the men (practically all of them of Winchester) displayed in their work; their hammers, hods and chisels were never idle; we were back in the good old days. The Cloister was indeed a work of willing coöperation, in which artists and craftsmen felt the spell of Wykeham's art and tradition, were inspired by the greatness of their task, and were encouraged by the generous trust and ready assistance of the committee. While essentially modern in form and spirit, the War Cloister fits well into its position among the other collegiate buildings which during centuries have been growing up in this historic old city. It typifies the spirit of Winchester, essentially modern, yet carefully regarding tradition.



One Side of the Cloister



Corner of the Cloister



# The Charlesfort Monument, Parris Island, S. C.

By ALBERT SIMONS and SAMUEL LAPHAM, JR.

CHARLESFORT was established in 1562 on what is now Parris Island, S. C., by Jean Ribaut, acting under a commission from Admiral Coligny. The purpose of this settlement was not only to extend the domains of the King of France, Charles IX, but also to form a colony that would be a refuge for Huguenots. On the seaward end of Parris Island was built Charlesfort, and here Ribaut erected a small octagonal stone column to mark the land as belonging to Charles IX and to France. The little settlement existed until 1563, when mutiny arose among its members. The fort was abandoned, and having built a small ship, the garrison attempted to return to France. Shortly after its departure the site was visited by the Spanish, the fort burned, and the column carried away.

For many years it was supposed that Charlesfort, while on Port Royal Sound, was not on Parris Island. Led by his interest in historical matters, Col. John Millis of the U. S. Corps of Engineers, assisted by Gen. Harry Lee of the Marine Corps, began a search for the site in 1917. The World War intervened, but after it was over the search was resumed by General Lee and Major G. H. Osterhaut, under authority from the Secretary of War and with aid and suggestions from prominent citizens and authorities on South Carolina history. Full reports of the search can be found recorded in "Transactions of the Huguenot Society of South Carolina," so we quote herewith only part of General Lee's report on the final result:—" . . . when men were available, Major Osterhaut was placed in charge of the work with directions to clear the site and then to run deep and narrow trenches at right angles across the sup-

posed location of the fort and within the area traced by the old moat. After digging, the trenches disclosed the butt ends of cedar posts, generally their tops and sidings, some 2 or 3 feet below the surface of the ground. The trees within this area had markings on them showing where the old parapet had been, and eventually complete traces of the old stockade were disclosed. . . ." With the exception of the old stone tower at Newport, this fort on Parris Island is certainly the oldest structure erected by the white race within the present limits of the United States of which any discernible trace remains today.

Upon being told of what was found, the Huguenot Society of South Carolina conceived the idea of building an appropriate monument on the site; its officers appealed to the state's congressmen and senators for aid in securing an appropriation for a monument, and this was later approved and passed by congress. A committee composed of the Secretary of the Navy, the Commandant of the 6th Naval District, and the President and Secretary of the Huguenot Society was appointed to handle the matter, and they selected Messrs. Simons & Lapham, of Charleston, as the architects for the proposed memorial.

The *parti pris* had already been made, and it was decided that the monument should consist of an octagonal shaft, bearing the royal arms of France, reminiscent of the marker set up by Jean Ribaut. The general character of this marker was known, since Ribaut had set up two, the other being on the River of May, in Florida, and Jacques Le Moyne, an artist, accompanying Laudonniere on another colonizing voyage to Florida in 1564, had sketched it. This engraving is contained in the "*Brevis Narratio*."



Landward Side, Charlesfort Monument, Parris Island, S. C.

Simons & Lapham, Architects

For the Charlesfort monument's design, however, the details, sketchily indicated in LeMoynes engraving, had to be exact, and it was therefore necessary to verify the French arms of the time of Charles IX and to identify the order that surrounded the shield. This presented a line of research which led to correspondence with students and authorities of military insignia and heraldry, especially Capt. G. M. Chandler, U. S. A. and Col. R. L. Collins, U. S. A., who took a personal interest in the search. Thanks to the rather extended efforts of Col. Collins, the details were definitely verified by descriptions in the "*Promptuaire Armorial et General*" by Boisseau, published at Paris in 1657, and in the "*Manuel du Blazon*" by Parois, published at Paris in 1854. Through the enthusiasm of Col. Collins, Lt. Col. Falls became interested and supplied a definite check on the heraldic correctness by obtaining and presenting the architects with rubbings from a coin minted in the reign of Charles IX, which showed the French shield and crown, and with a rubbing of the medalion of the collar of the Order of St. Michel, probably dating from the early eighteenth century, both taken from specimens in the collection of the American Numismatic Society. From these and from an illustration in the files of the architects, showing the royal arms above the fireplace in the ballroom at Fontainebleau, the details were determined beyond peradventure. The arms consist of a shield bearing three *fleurs de lys*, surmounted by the royal crown and surrounded by the grand collar and pendant of the Order of St. Michel. This order, it may be said in passing, was founded by Louis XI in 1469 to commemorate the heroic resistance of the fortress-monastery of Mont St. Michel to the English invasions, and consisted in the beginning of 36 chevaliers.

In setting up the monument it was possible, through the coöperation of the personnel of the Public Works Office of the Marine Reservation, to carry out one of those minor refinements which have added to the interest of the work. A calculation was made of the reckoning of Parris Island from Dieppe, and the angle bearing the royal arms was set by the compass on that reckoning facing toward the coast of France and the homes of those brave colonists. The reverse or landward side was designed by the architects to present a contrast to the pomp of royalty. The open Bible is surmounted by the sacred monogram "I. H. S." and supported by a scroll bearing the words "Religion, Freedom and Trust." These might be interpreted as symbols of freedom of conscience, tempered by that divine humanity that leads to the goal of enlightenment and truth. The double wreaths at the top recall the sacrificial garlands placed on Ribaut's marker by the Indians when they worshiped it as a totem, as shown in the engraving by Le Moyne. In the approval of the drawings by the National Commission of Fine Arts, the Commission suggested the use of native plant forms as more significant than the usual highly conventionalized forms of decoration. The wreaths are therefore composed of pine, magnolia and sycamore leaves and branches, all native to the place.

The problem of the inscriptions for the monument involved two legends, being brief in order that the letters be in scale with the heroic size of the shaft. The inscription below the Bible was prepared by John Bennett, the author and historian, and that below the French arms by Miss K. B. Mazyck, Librarian of the Huguenot Society. The orthography used for the proper names was verified by W. C. Miller, the President of the Huguenot Society.



Marker Erected by Ribaut in 1562 at Charlesfort  
From an Engraving by Le Moyne, 1591





SEAWARD SIDE, CHARLESFORT MONUMENT, PARRIS ISLAND, S. C.  
SIMONS & LAPHAM, ARCHITECTS



MONUMENT TO THE A. E. F., NEAR ST. NAZAIRE  
GERTRUDE V. WHITNEY, SCULPTRESS  
ELECTUS D. LITCHFIELD, ARCHITECT





*Photo, John Wallace Gillies*

COMMODORE THOMAS MACDONOUGH MEMORIAL, VERGENNES, VT.  
JOHN RUSSELL POPE, ARCHITECT







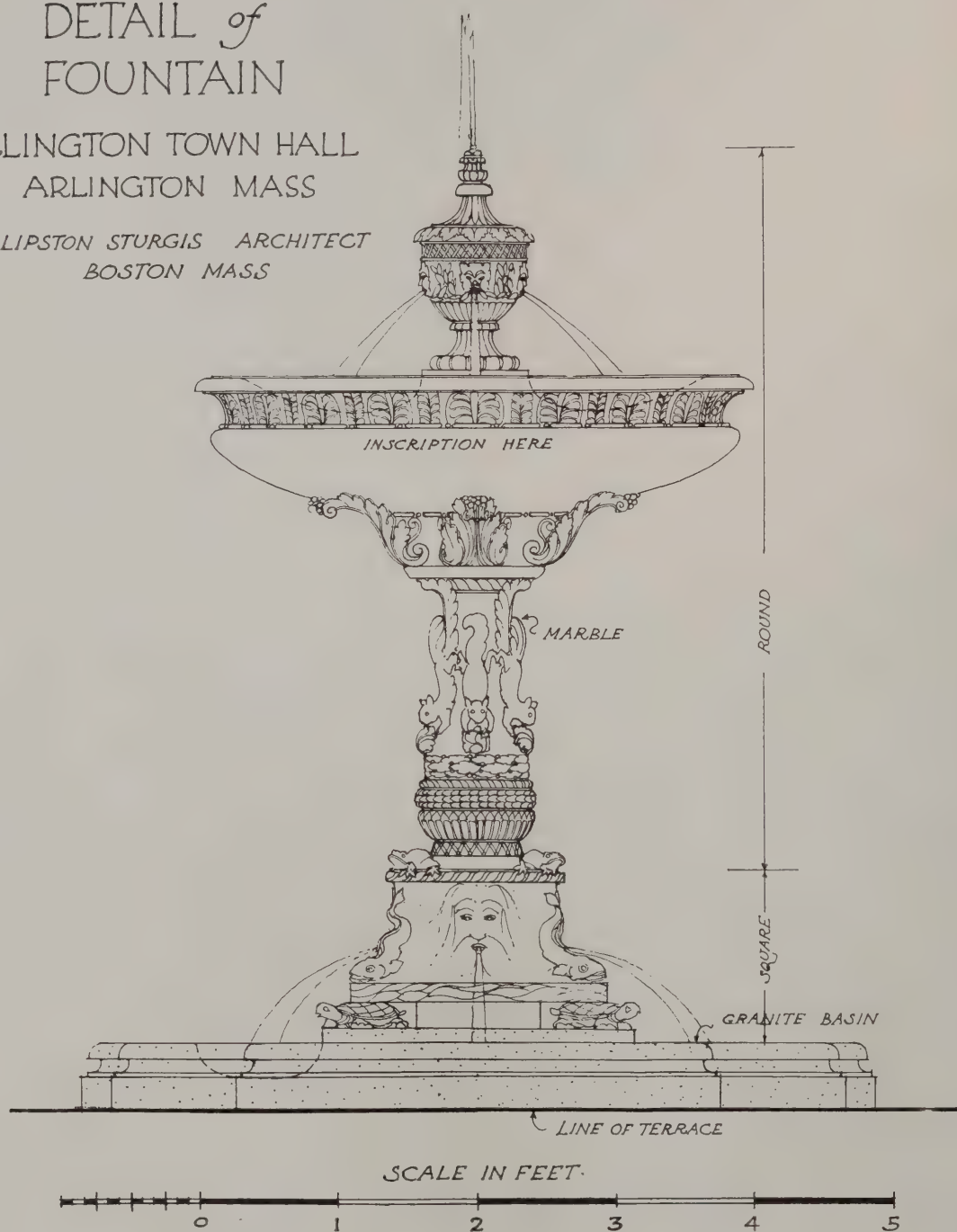
MEMORIAL FOUNTAIN, ARLINGTON, MASS.  
R. CLIPSTON STURGIS, ARCHITECT

*Measured Details on Back*

# DETAIL of FOUNTAIN

ARLINGTON TOWN HALL  
ARLINGTON MASS

R. CLIPSTON STURGIS ARCHITECT  
BOSTON MASS



DEC  
1926

NO  
16

The ARCHITECTURAL FORUM DETAILS





ROYAL AIR FORCE MEMORIAL, LONDON  
SIR REGINALD BLOMFIELD, ARCHITECT; REID DIRK, SCULPTOR







*Photo. Tebbs & Knell*

WAR MEMORIAL, GLEN RIDGE, N. J.  
WILLIAM EDGAR MORAN, ARCHITECT

*Measured Details on Back*







Photo. Gabriel Moulin

MEMORIAL TO ROBERT LOUIS STEVENSON, SAN FRANCISCO

WILLIS POLK, ARCHITECT; BRUCE PORTER, SCULPTOR







*Photo. Paul J. Weber*

MONUMENT AT THE STATE HOUSE, BOSTON







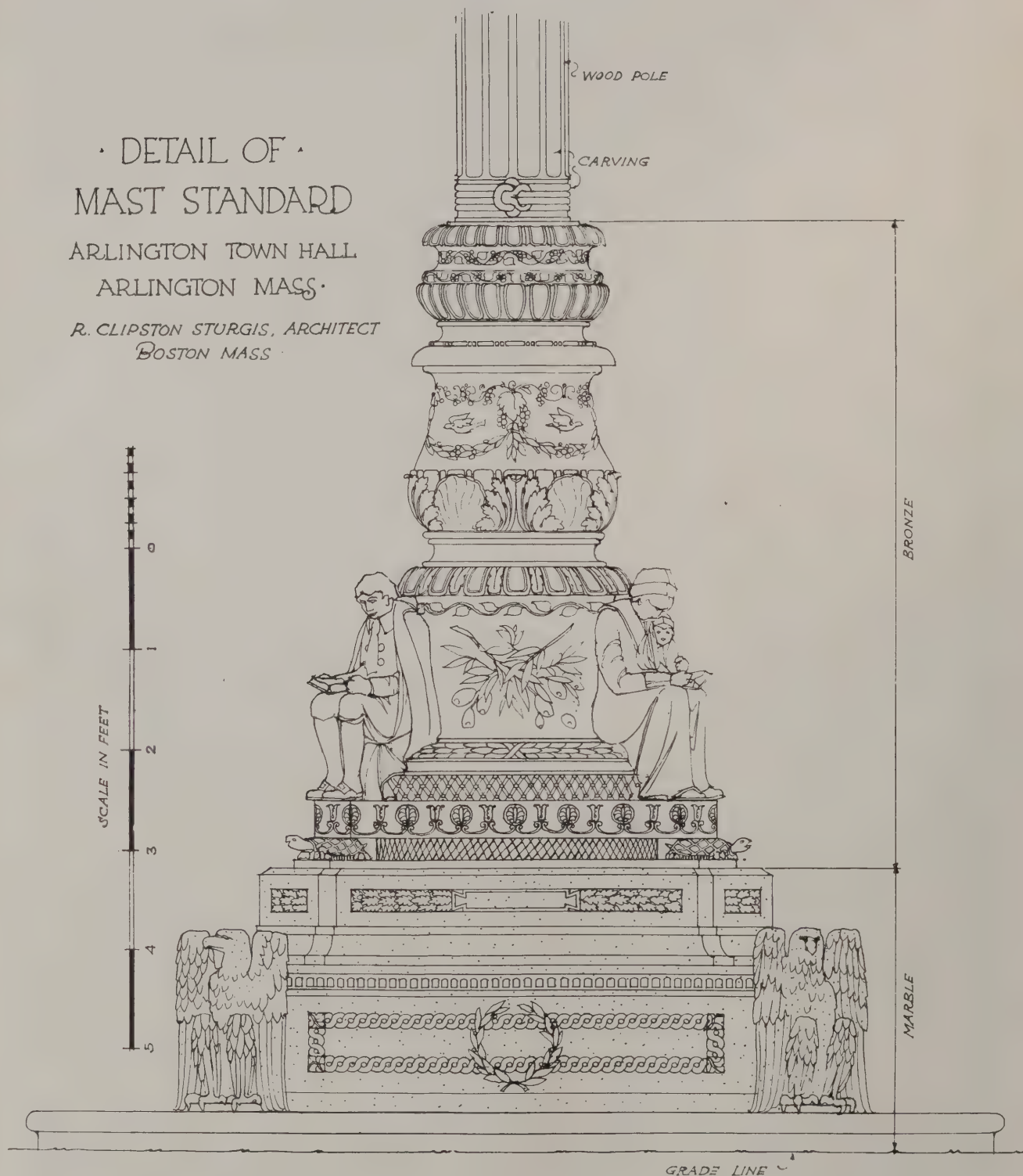
BASE OF FLAG STAFF, ARLINGTON, MASS.  
R. CLIPSTON STURGIS, ARCHITECT

*Measured Details on Back*

· DETAIL OF ·  
MAST STANDARD

ARLINGTON TOWN HALL  
ARLINGTON MASS.

R. CLIPSTON STURGIS, ARCHITECT  
BOSTON MASS.



DEC.  
1926

NO.  
18

The ARCHITECTURAL FORUM DETAILS





*Photo. George H. Van Anda*

WAR MEMORIAL, KEARNY, N. J.  
JULIUS LOESTER, SCULPTOR





# Memorial Tablets

By ROBERT P. BELLOWES

IN some localities there has been, of late, a surprising improvement in the quality of indoor memorials. For instance, at the top of Beacon Hill, within a 200-yard radius of my office, there are enough examples to suggest the text and illustrations for this article. This survey, therefore, will be confined to the work, old and new, in King's Chapel, to the new War Memorial in the Boston Architectural Club Library, and to that most surprising series of wall tablets lately erected by Boston architects in the stairway hall of the New England Historic Genealogical Society, at 9 Ashburton Place. If the reader wishes to go slightly farther afield, he will find recent memorials of merit in the Massachusetts State House, and in the Old North and First Churches. The work of R. Clipston Sturgis in these churches deserves an article by itself. He set a pace in the Old North which no doubt has influenced the other Boston architects, mentioned here for their work on Ashburton Place. Most of these tablets, as will be seen, hark back to old times. Wall tablets erected today in such historic buildings as King's Chapel or the Old North must necessarily conform to the eighteenth century character of those delightful old edifices. The New England Historic Genealogical Society on Ashburton Place, in commemorating worthies of other days, has sought to maintain the same character, which clothes with architectural dignity these memorials to some of New England's pioneers.

Among the most delectable spots on this hemisphere for the study of wall tablets in historical sequence, is King's Chapel. This gracious building dates from 1749. As we tread its venerable, historic aisles, between the high-backed, damask-covered pews, we view a succession of mural monuments dating from the building of the church to the present day.

1746. "*M. S. Franciscæ Shirley*"—

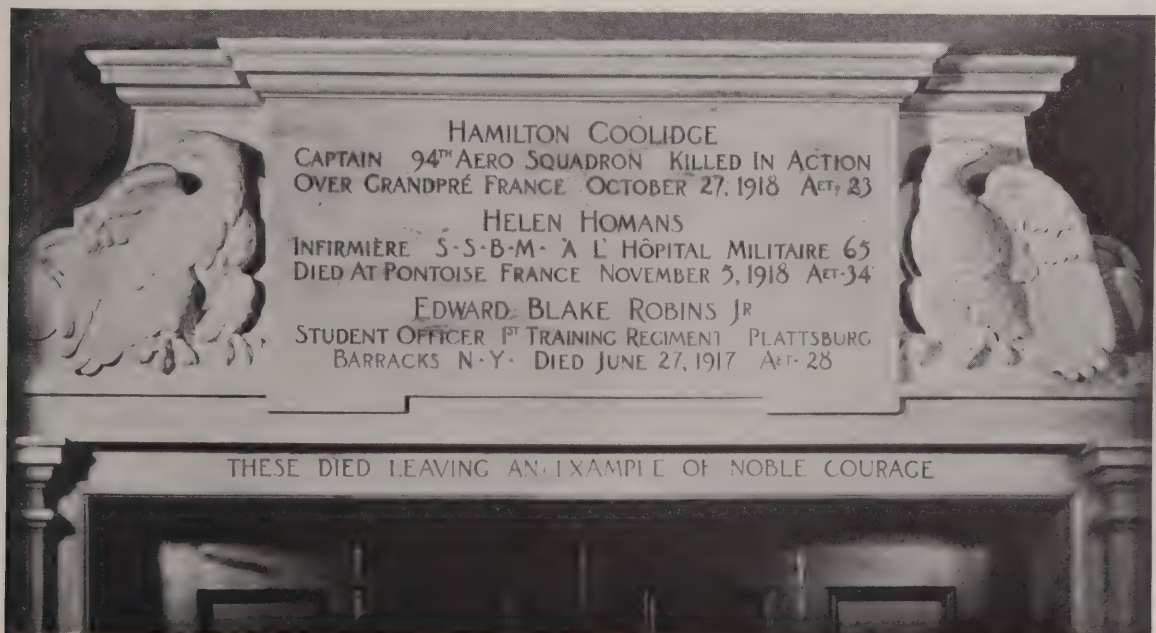
Her many virtues and those of her daughter require some 54 lines of Latin for their enumeration. Though we may stumble at their meaning, the well cut letters are a delight.

1758. "*M. S. Caroli Apthorp*"—

Another lengthy inscription, cunningly placed upon a square white marble field. Though death provides its theme, the monument is full of life and color. The insets of tawny red marble, the urn of yellow, the golden torches (these of wood!), the painted arms and the lamenting cherub are the work of "Hen: Cheere," for he has so signed his name and "*Fecit*" after it. What a thrill was felt when we found this same name in a book devoted to the London of the eighteenth century! There Mr. Cheere figured as a worker in marble and a maker of mantelpieces. It is not to be doubted that these wall monuments of the grander sort were ordered from London, made there, and shipped to the colonies. Here is another, perhaps in certain respects the best.

1766. "*Sacred to the Memory of Samuel Vassall, Esq.*" He was "a steady and undaunted asserter of the Liberties of England." His fortunes suffered from "the rage of the times." Yet his great-grandson, Florentius, of the island of Jamaica, found the wherewithal to commemorate his ancestor most handsomely. For once the script is in English. Much is to be recounted. Two columns of praise are deemed necessary. But what style to the lettering, what a telling spacing and arranging of the resounding phrases! The author has signed his work, "*W. Tyler, Sculptor, London.*"

Dr. Oliver Wendell Holmes, (himself the subject of a large tablet in King's Chapel), has well voiced the sentiment awakened by these memorials:

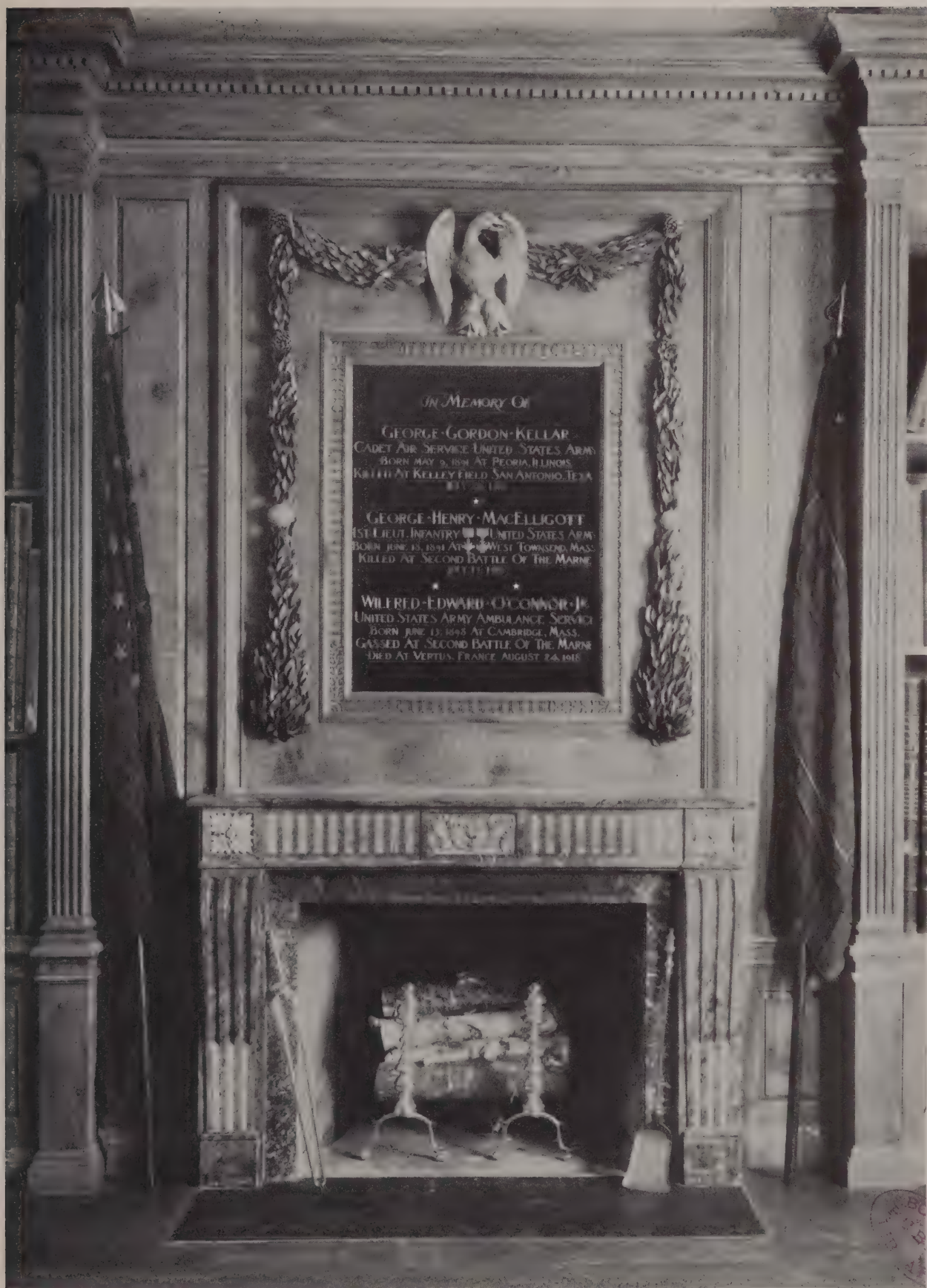


War Memorial Tablet Over Doorway, King's Chapel, Boston  
Robert P. Bellows, Architect



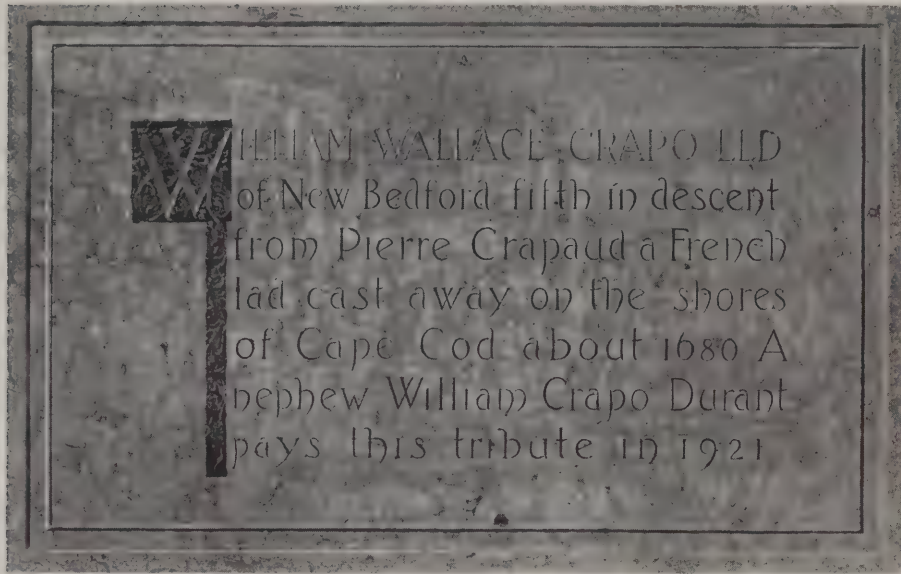
VASSALL MONUMENT, KING'S CHAPEL, BOSTON  
W. TYLER, SCULPTOR, LONDON 1766



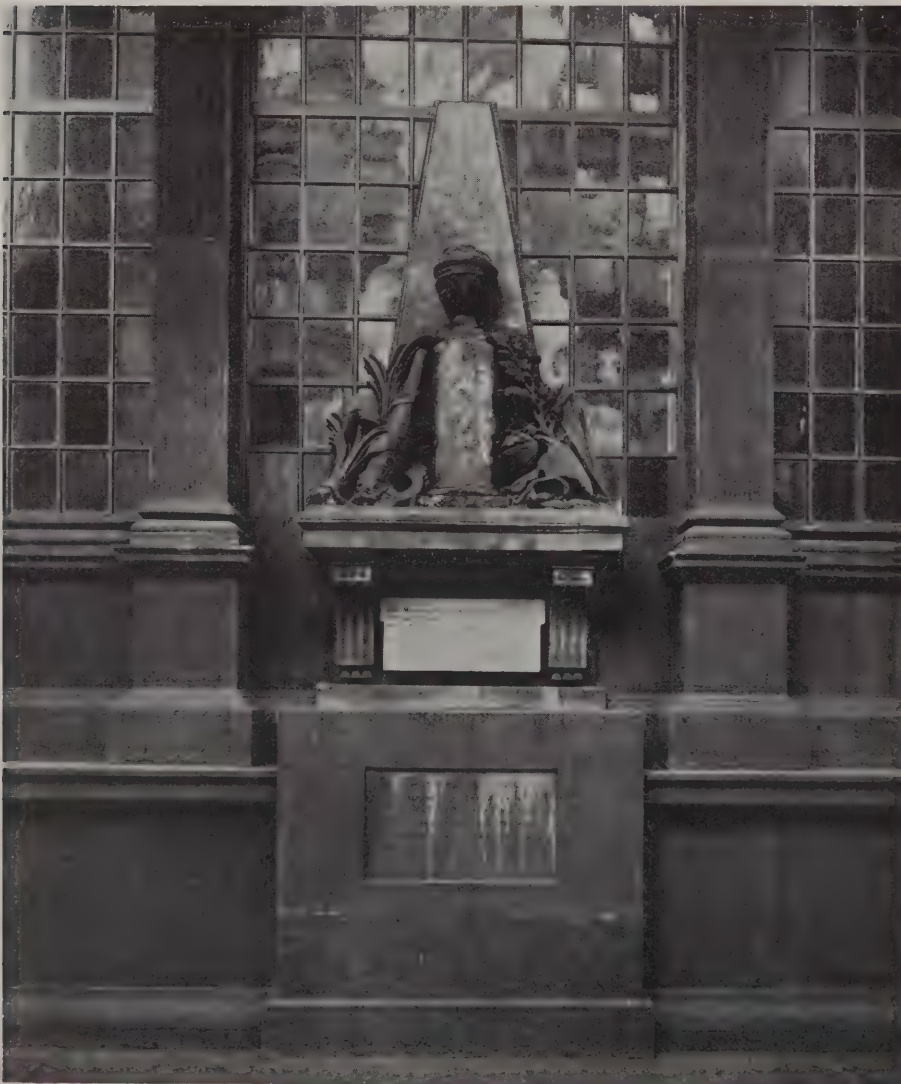


MEMORIAL CHIMNEYPiece, BOSTON ARCHITECTURAL CLUB LIBRARY  
 BELLOWS & ALDRICH, ARCHITECTS





Crapo Tablet, New England Historic Genealogical Society, Boston  
Brainerd & Leeds, Architects



Monument to Gen. Richard Montgomery, St. Paul's Chapel, New York  
Pierre Charles L'Enfant, Designer

"Lightly we glance the  
fresh-cut marbles  
o'er;

Those two of earlier  
date our eyes en-  
thrall:

The proud old Briton's  
by the western door,  
And hers, the Lady of  
Colonial days,

Whose virtues live in  
long-drawn classic  
phrase,

The fair Francisca of  
the southern wall."

The poet refers to the Vassall and Shirley monuments. And so on down the years, the scholars' Latin giving way to good English, the lengthy eulogies becoming more direct and (praise God!) shorter. Alas, the design and lettering are losing much of their earlier distinction and architectural character.

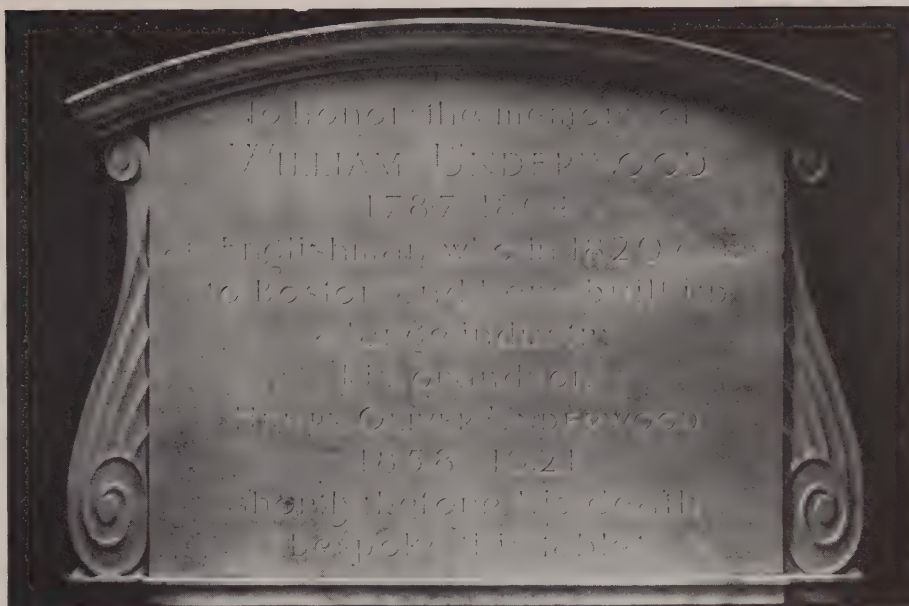
By Civil War times, the art of designing memorials had sunk to its lowest level. There is true pathos in such inscriptions as "Cabot Jackson Russell, Captain 54th Reg't. Infantry Mass. Vols. Killed at Fort Wagner, S. C., July 18, 1863 æ 18." Note that this boy-captain was only 18 when he laid down his life for his country! This is one of 14 glorious names, all of sons of the Chapel, set forever in ugly block-cut letters on shiny chamfered marble. Many words are abbreviated. The one attempt at Latin, "æ" is wrong. The standard is lower.

Now don't let us suppose that this decline in the art of designing mural tablets was due to lack of reverence or care. Our fathers and grandfathers had lost touch with the niceties of the eighteenth century productions. They had been



too busy with other things to work out their own artistic salvation. Art was "down, but not out." Gradually the quality of the tablets became better again. A recognition of the beauty of lettering *per se* was once more evident. McKim's firm glorified the Roman letter both in the Public Library and in the Shaw Memorial. Frank Chouteau Brown in his book taught the architects a wide range of delightful alphabets. The ancient graveyards gave up their best script. Typography improved. President Eliot reduced the bulk of many an inscription to a few impressive lines. The wording was calculated to fill acceptably a definite space. That quiet, persuasive and beloved stone carver, John Evans, knew much more about such things than his clients, the architects. But *all* were learning. Is it any wonder that those who cared became dissatisfied with the stock block letter long admired and used by the stone cutter?

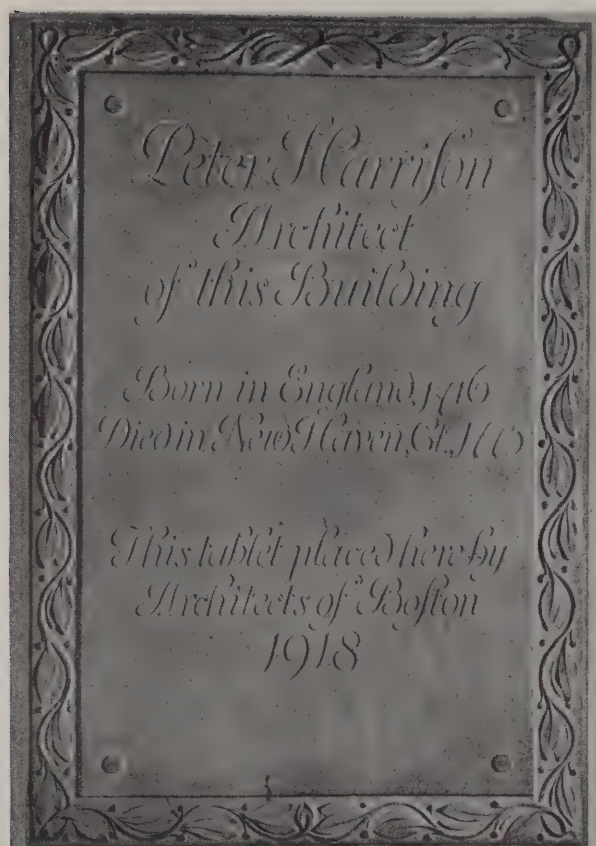
In recent years only a restricted number of carefully considered memorials have been placed in King's Chapel. One of the last is that to Robert S. Peabody, "Architect, Warden of this Church." After the erection of this simple tablet, all the available space seemed to be taken. Odd corners and the stair walls to the galleries alone remained, and they were soon filled up also. In 1918 the architects of Boston erected an unusually attractive slate tablet to Peter Harrison, architect of the building. It was placed in the vestibule, unfortunately somewhat overshadowed by the



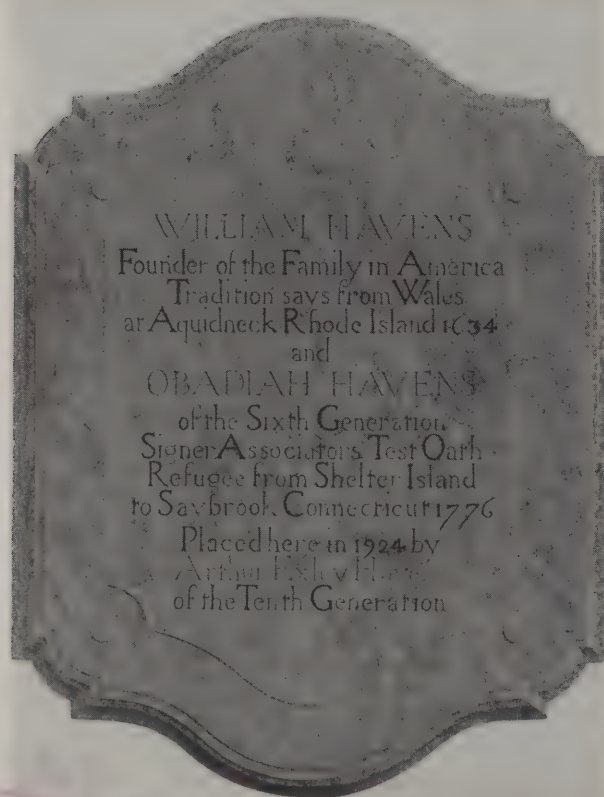
Underwood Tablet, New England Historic Genealogical Society, Boston  
Strickland, Blodgett & Law, Architects



Apthorp Monument, King's Chapel, Boston  
By Henry Cheere, London, 1758



Peter Harrison Tablet, King's Chapel, Boston  
Edwin J. Lewis, Jr., Architect



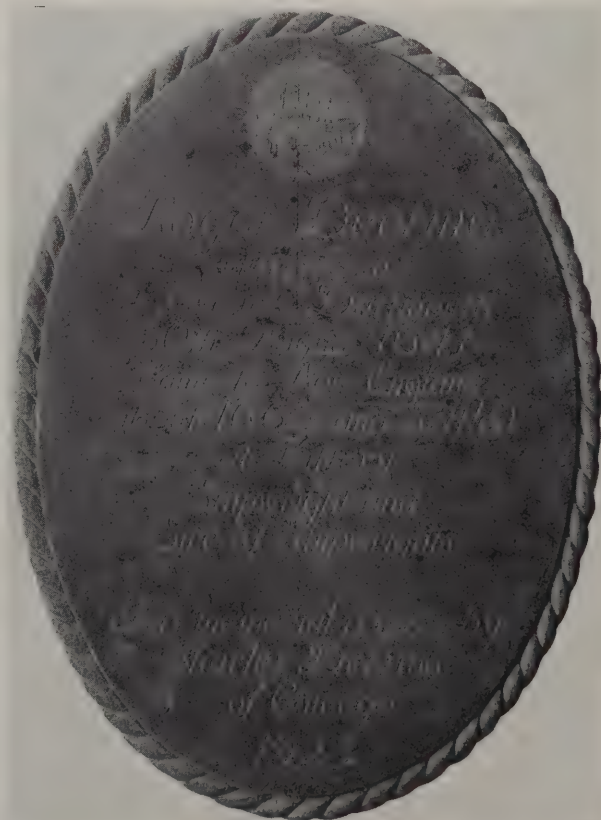
Havens Tablet, New England Historic Genealogical Society, Boston  
Gordon Allen, Architect

wooden cleat of an ancient and very necessary bell rope.

Despite the fact that "all available and proper wall space on the main floor of the church was used up," the Great War induced a reconsideration of this pronouncement. Again the children of the Chapel must be honored,—those who had "died leaving an example of noble courage." A solution was found by taking the scant space above the western door, the main door of egress under the organ gallery. The required tablet and surrounding architecture were united to form the new Memorial Doorway. The old doors remain between their richly classical columns.

At the house of the Boston Architectural Club, 16 Somerset Street, a similar problem presented itself. In the new Memorial Library, the fireplace, mantelpiece and over-mantel are designed to form one composition. The tablet with the names of those members of the Club who lost their lives fighting in the Great War is the motif dominating the room.

Now comes the most interesting part of this narrative. A few years ago the New England Historic Genealogical Society invited contributions to a fund. Several subscribers under certain conditions were asked to name ancestors of worth for commemoration. It was planned to place tablets up and down the walls of the central staircase of the Society's new building. The response was impressive, and the Society found itself under the delightful obligation of placing a large number of tablets. There was, of course, only a limited amount of money to spend on the individual tablets together with the architectural

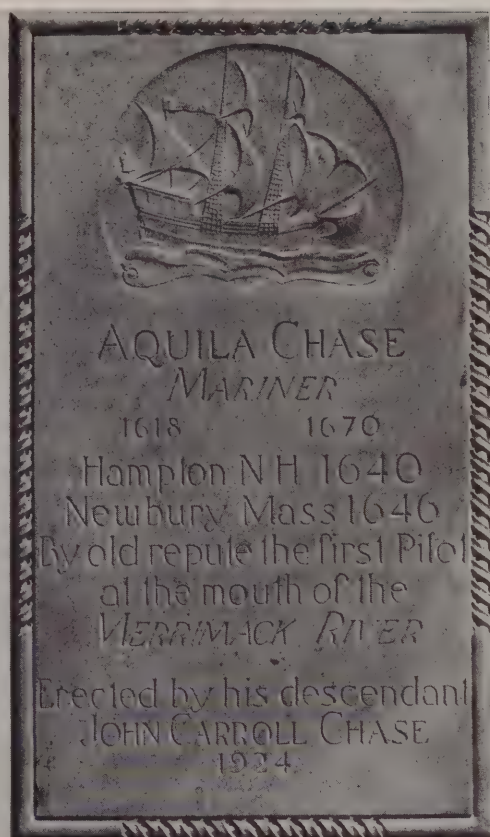


Deering Tablet, New England Historic Genealogical Society, Boston  
Strickland, Blodgett & Law, Architects



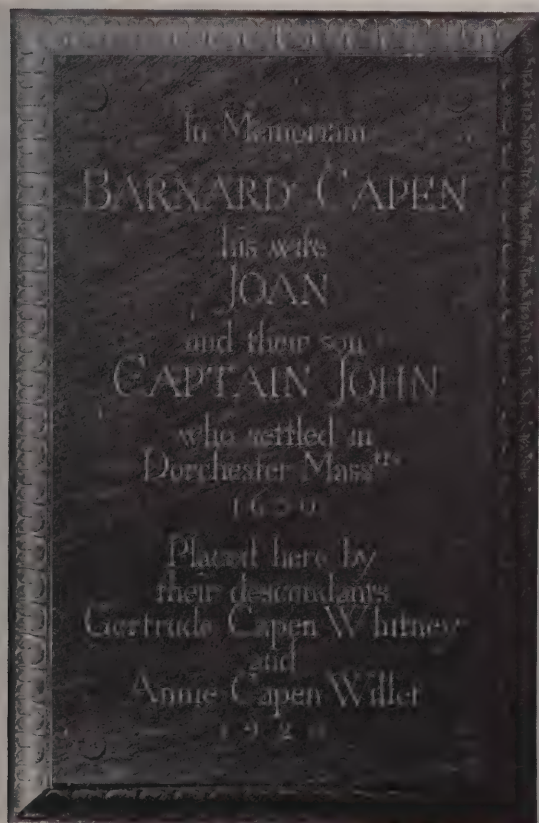
services involved. Fortunately the Society had the good sense to turn for advice and counsel to one of its members, William T. Aldrich, architect. It is to the everlasting credit of Mr. Aldrich and the architects he invited to share the work with him that they accepted this difficult and unremunerative commission. But the idea appealed to all of them. Here was a chance to try themselves out in friendly rivalry. The architects who designed the tablets, now placed up and down the Society's stairway, are William T. Aldrich; Gordon Allen; the firm (now dissolved) of Bellows & Aldrich; Brainerd & Leeds; Alexander Emerson; Ralph W. Gray; Little & Russell; the late Lawrence Park; Stanley Brampton Parker; and Strickland, Blodgett & Law. The monument to Abraham Lincoln, given by his son, the late Robert T. Lincoln, was designed by Frederic Allen, sculptor.

Much of this information as well as permission to use its photographs is due to the kindness of the Society. William Prescott Greenlaw, Librarian and Assistant Treasurer, was the originator of the scheme and has been kindness itself. Mrs. Florence Conant Howes, Assistant Secretary, has won many a distracted architect's appreciation by her helpfulness and tact in carrying out the work. There are about 60 tablets in place. Some of the designers did more, some less. The work has gone along quietly for eight years, and is not wholly finished yet. The tablets average about 10 square feet in area. No two are of the same pattern. There are limestone, slate and marble tablets. A few are of wood. Some



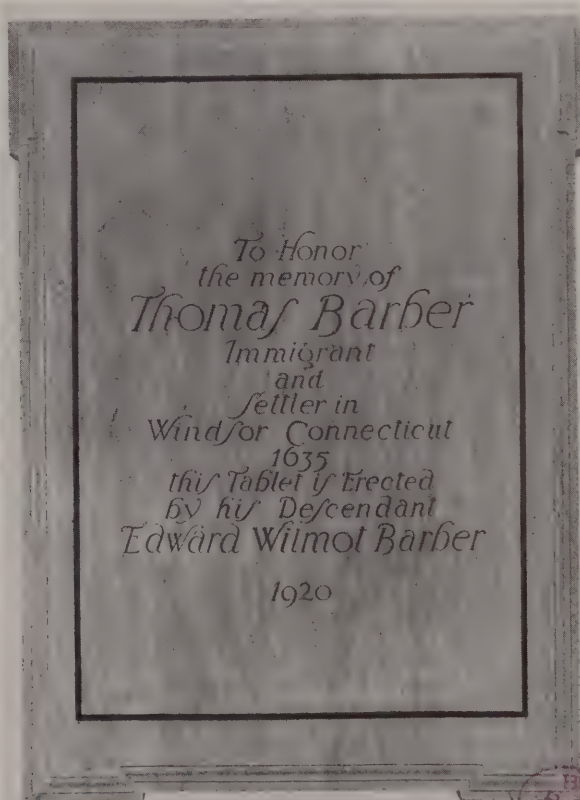
Chase Tablet, New England Historic Genealogical Society, Boston

Strickland, Blodgett & Law, Architects



Capen Tablet, New England Historic Genealogical Society, Boston

Gordon Allen, Architect



Barber Tablet, New England Historic Genealogical Society, Boston

Ralph W. Gray, Architect

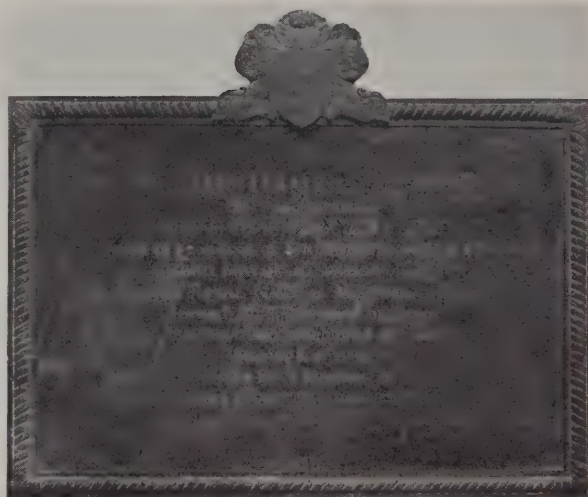
are of brass or of bronze. Several show a combination of materials. Some are frankly experimental. Color has been introduced by the use of contrasting materials. The application of paint or enamel has been particularly successful where coats of arms form parts of the designs. Paint has also been used with good effect, in some cases, to bring out the lettering. A wise committee kept down the number of words in each inscription to a minimum. Much time and thought must have been put into the simple, condensed phrasing. Then it was up to the architects. They were given their locations and told to "go to it." The results have justified the scope given by this generous treatment.

The expensive nature of such memorials was a check on over-elaboration. There was, however, a chance for well carved lettering, a simple enframement, and perhaps a bit of ornament. But this was as far as it was possible to go. The architects' designers worked their heads off over the lettering! The local

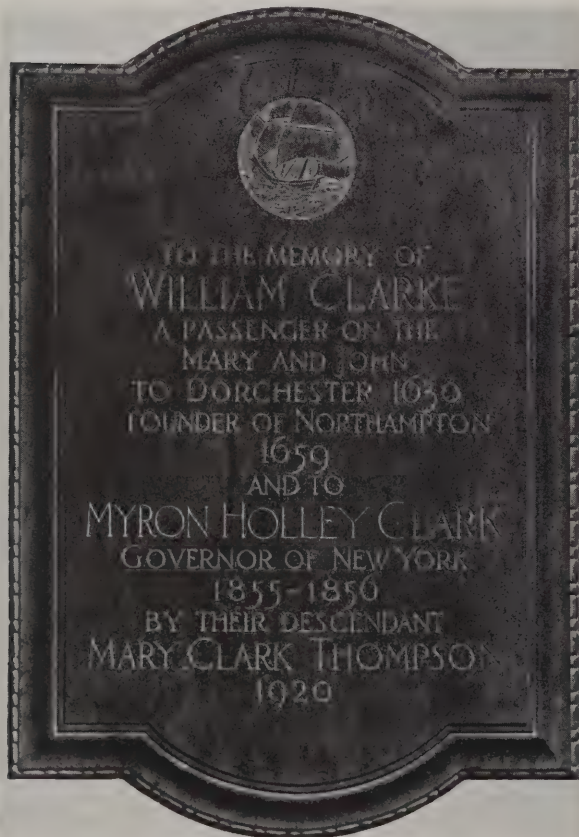
antiquities, such as those already here described in King's Chapel, were never scrutinized so sharply before; and cobblers' wax was rubbed across white paper on many a headstone in the Granary Burying Ground or that on Copp's Hill. English books on memorials became the "best sellers" in architectural circles, for the English for the most part are doing this sort of thing better than we. Occult words pertaining to lettering such as "spur" and "serif" and "flourish" be-

came common in office parlance. It is incredible how well some of this lettering is designed and executed. It is readable and full of variety. It shows a high regard for emphasis and balance. But few will ever know at what cost of toil and study it was produced! The enframement and ornament were much easier.

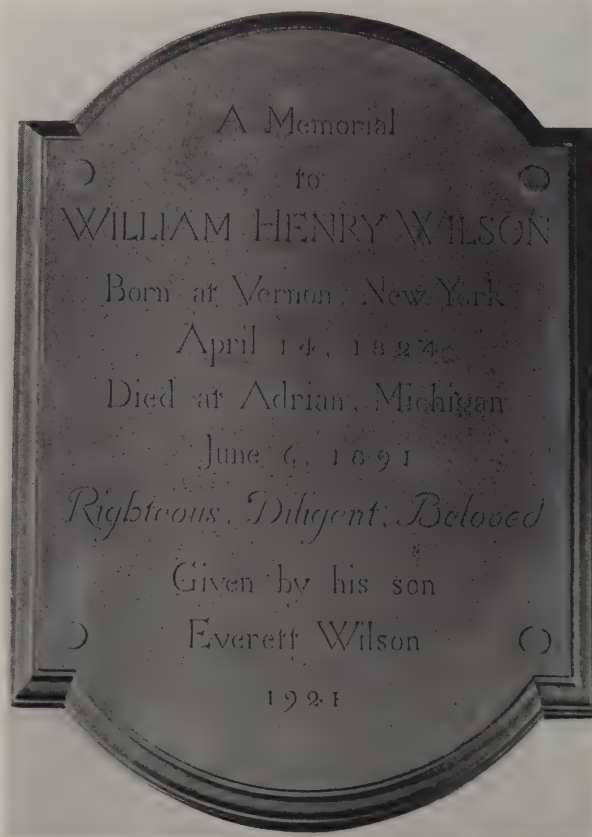
Sometime, we hope a book will be published in handsome form giving each of the tablets a full page. At that scale it would be possible to give more than a mere suggestion of their merits and their distinction.



William Hamersley Tablet, New England Historic Genealogical Society, Boston  
Bellows & Aldrich, Architects



William Clarke Tablet, New England Historic Genealogical Society, Boston  
Ralph W. Gray, Architect

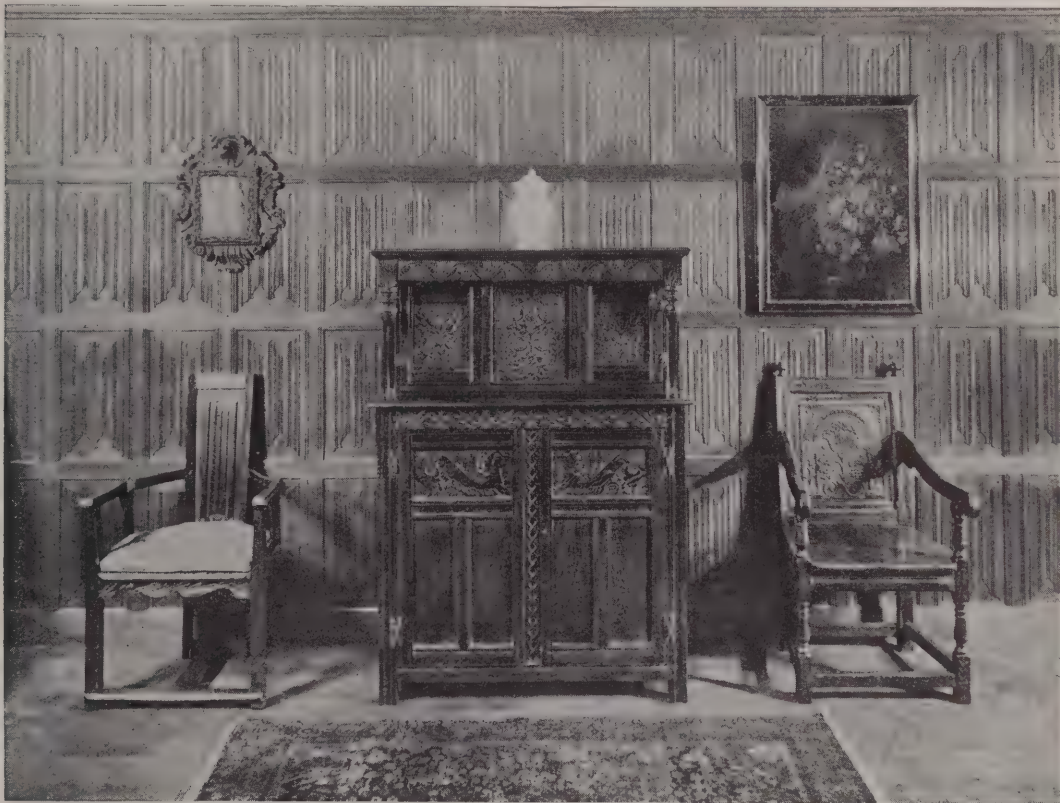


William Henry Wilson Tablet, New England Historic Genealogical Society, Boston  
Gordon Allen, Architect



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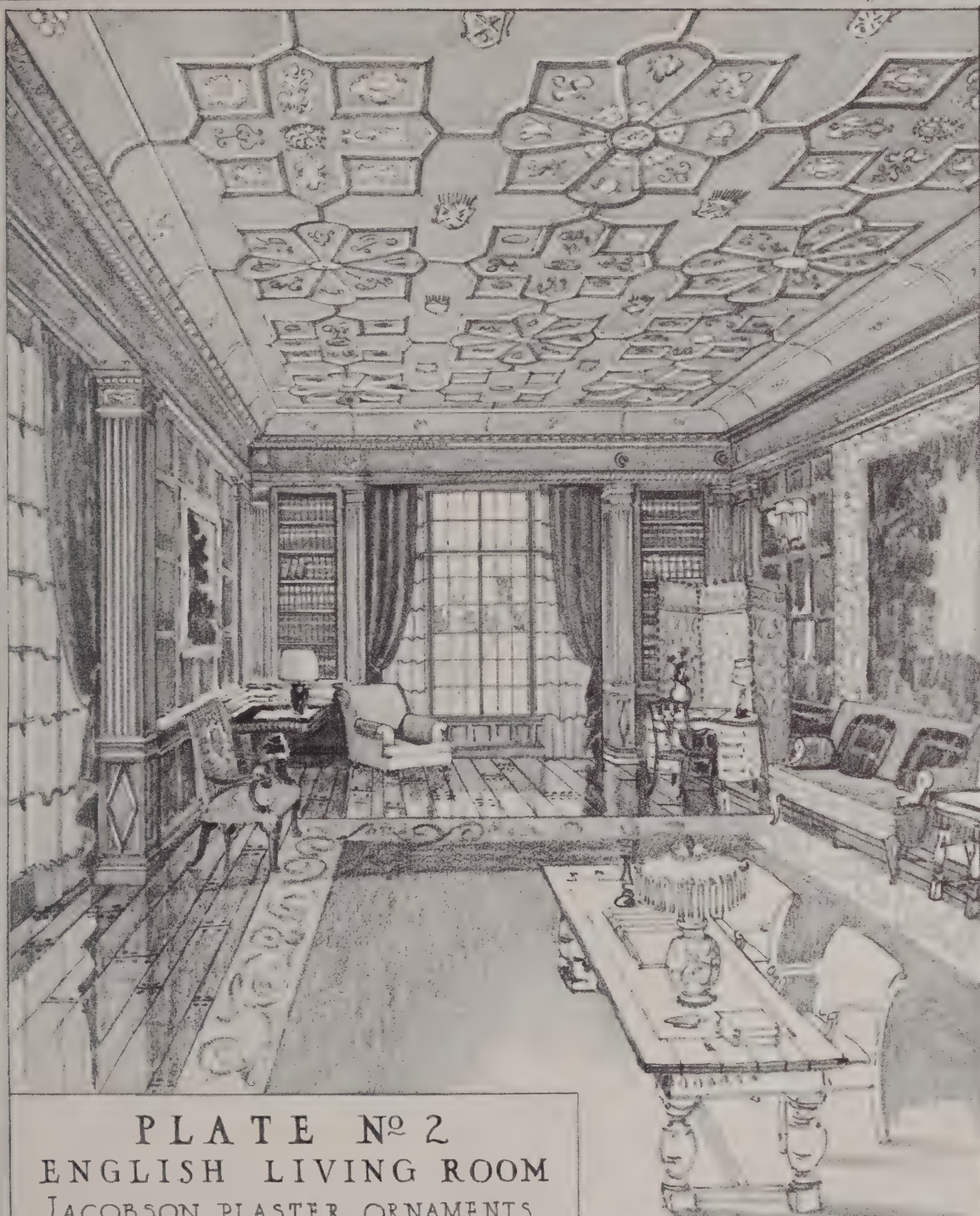
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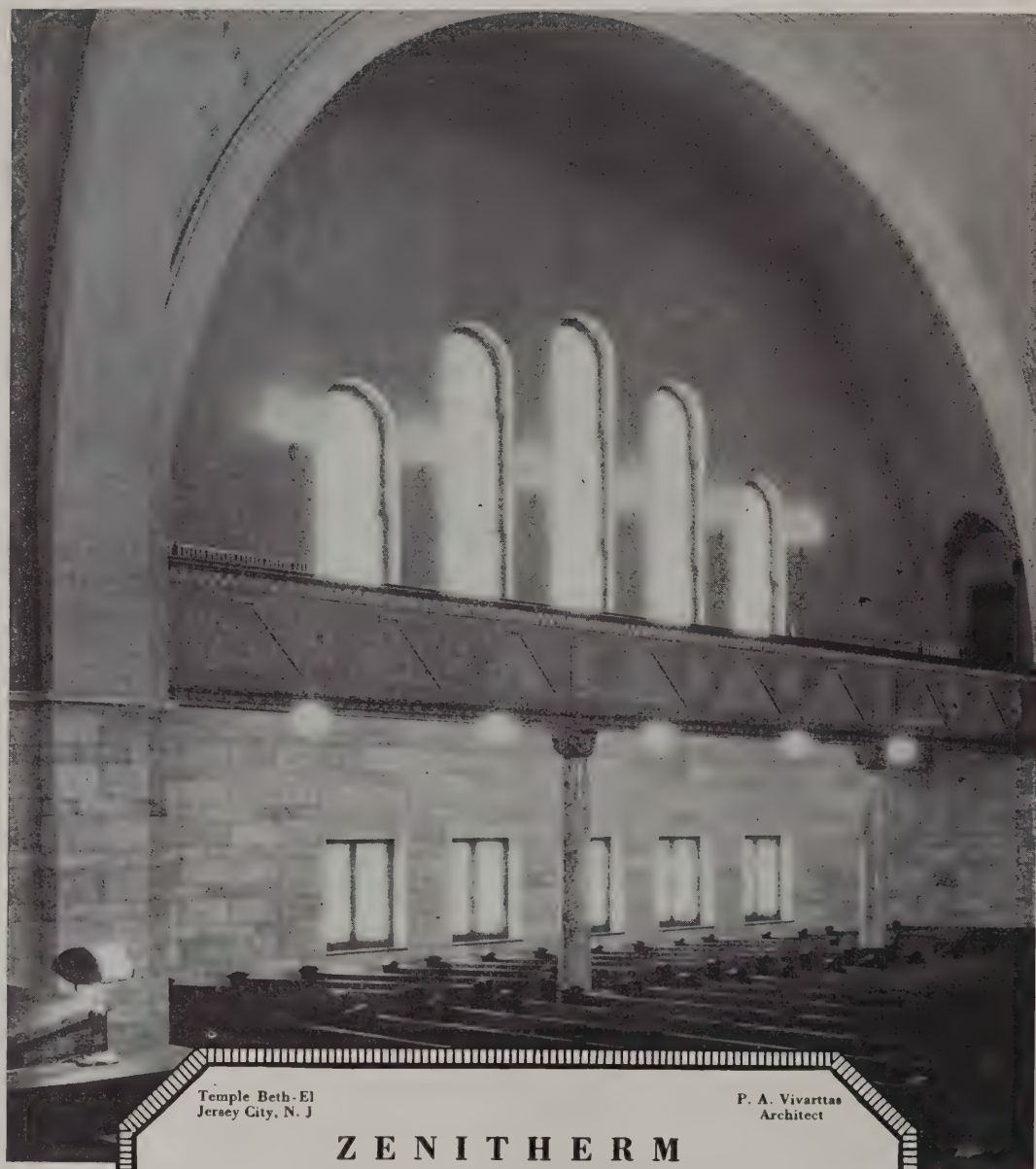
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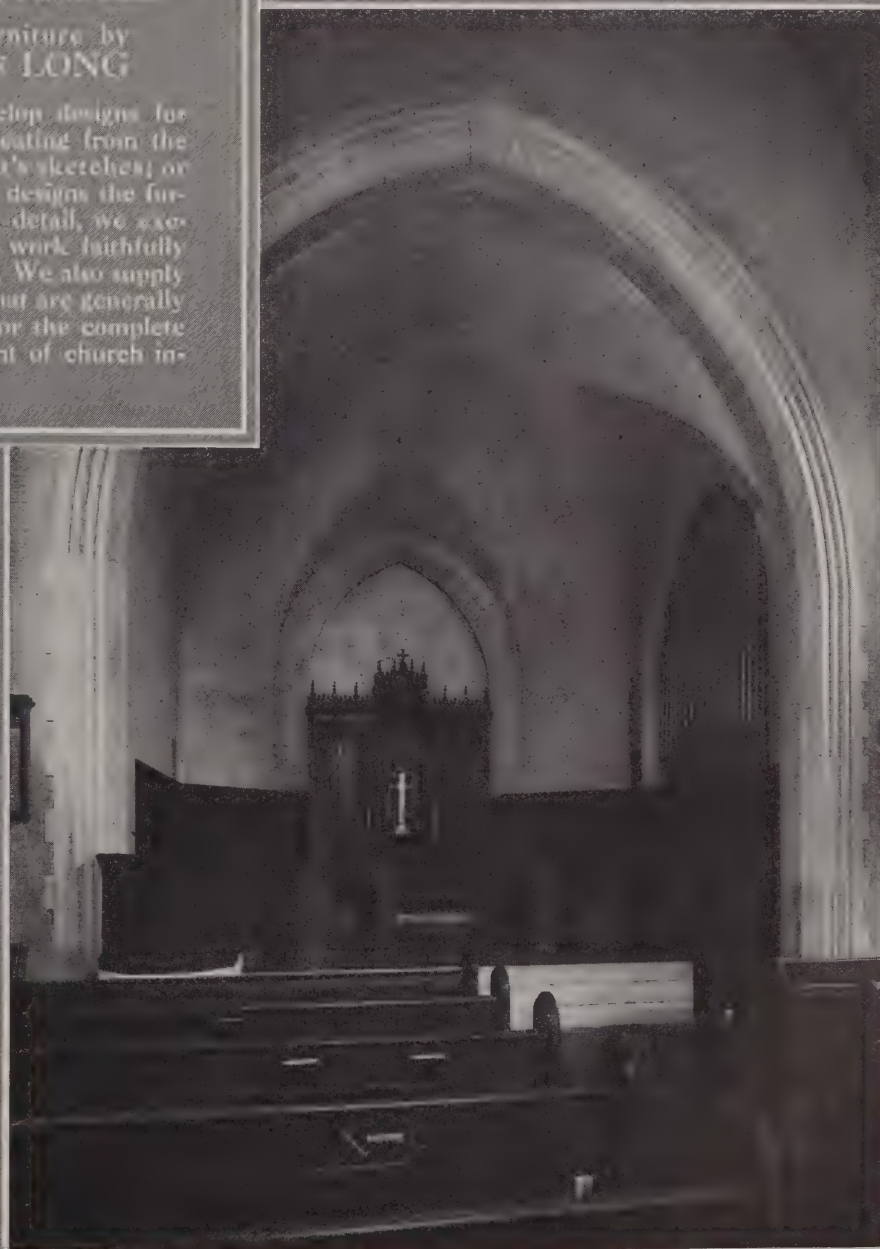
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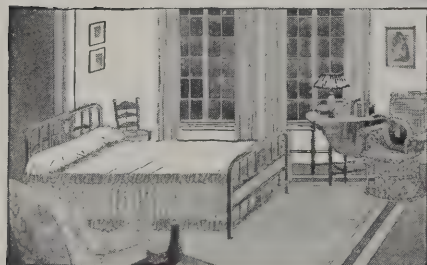
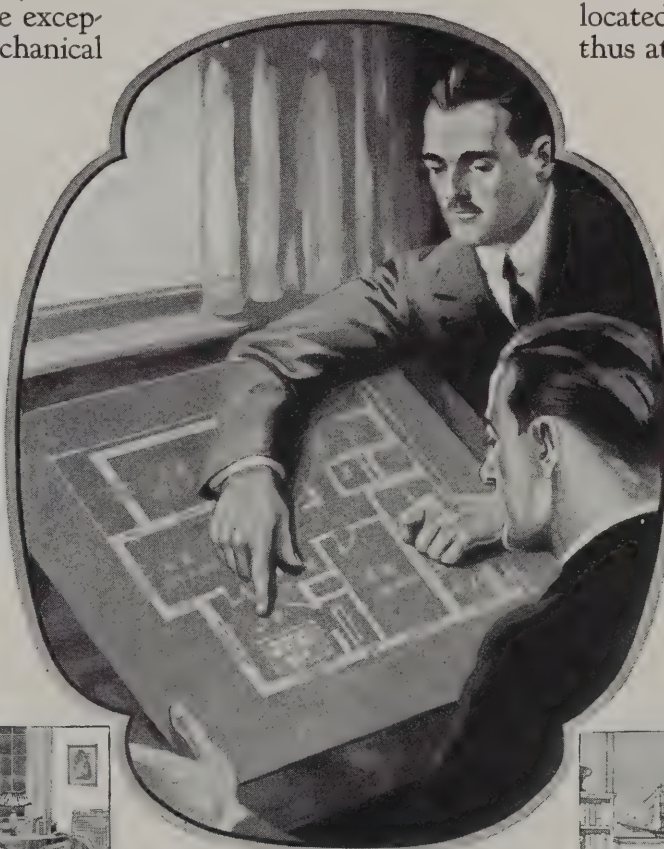
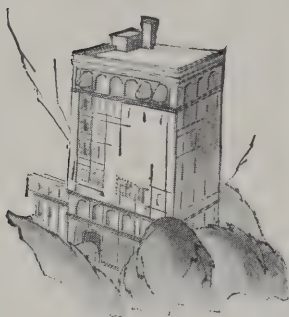
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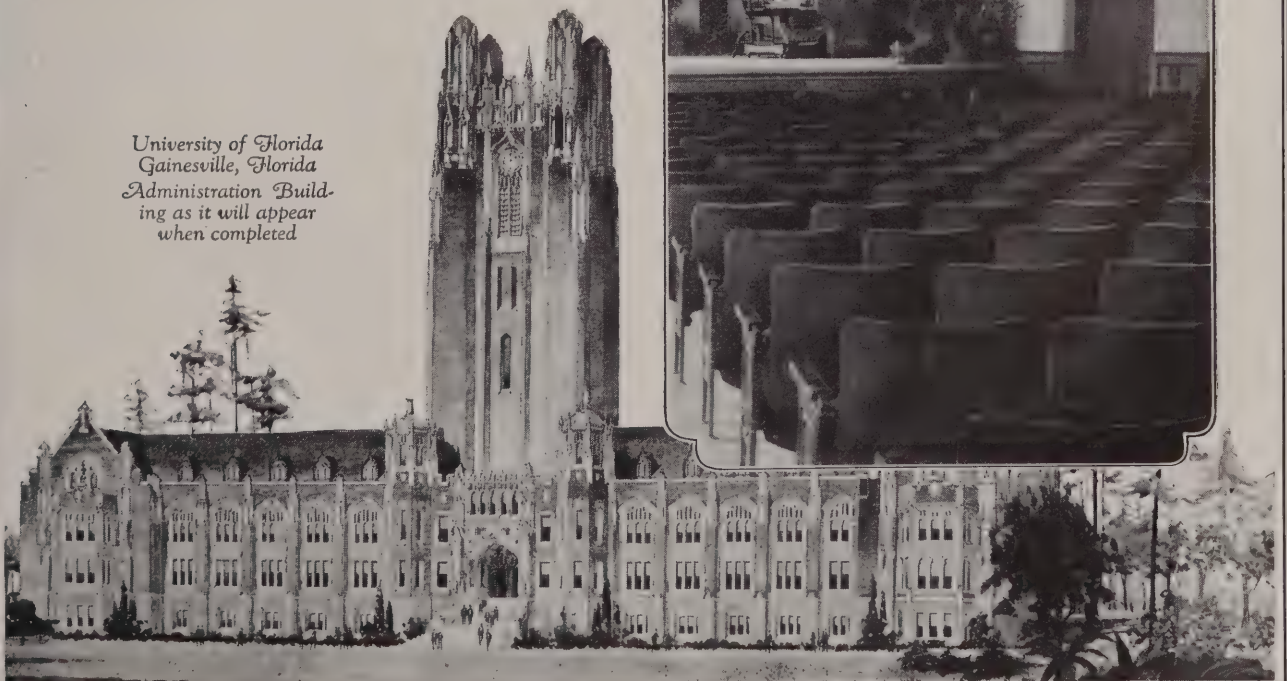
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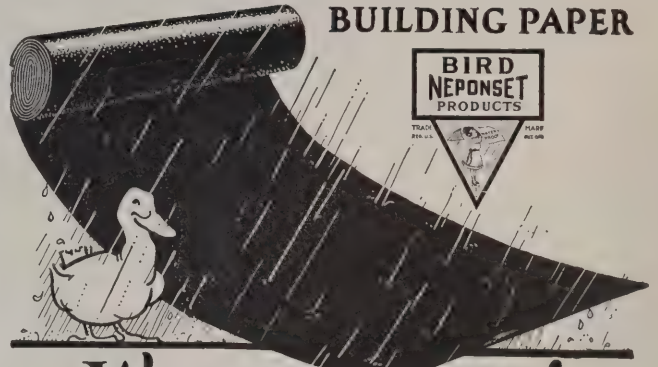
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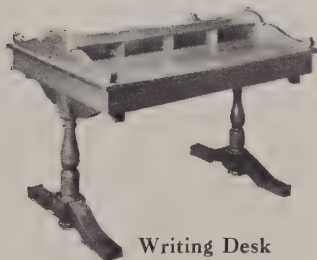
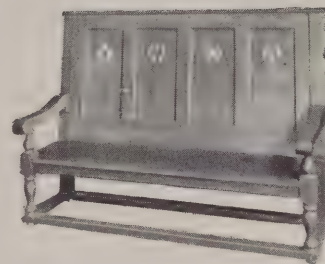
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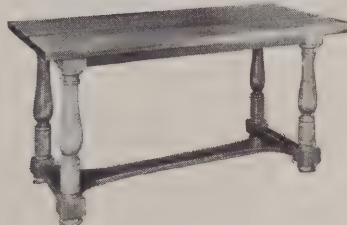
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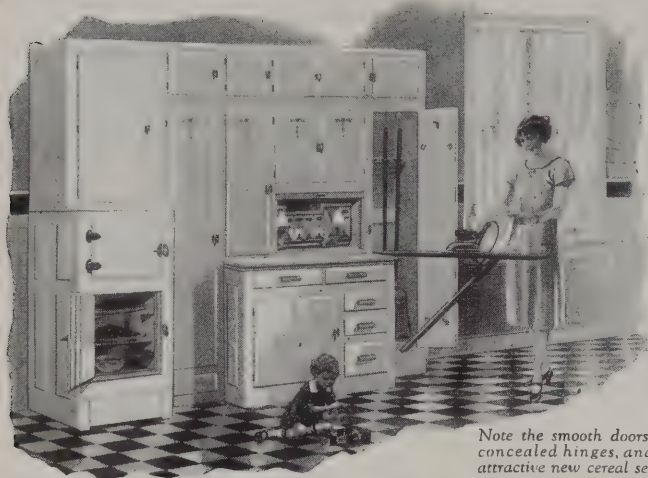
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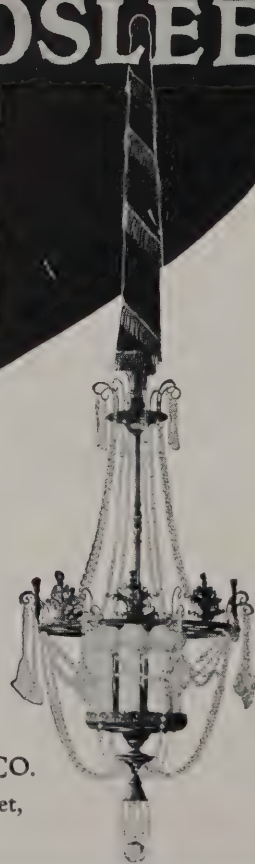
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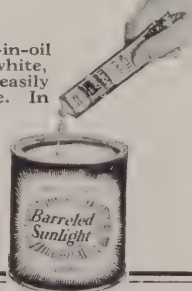
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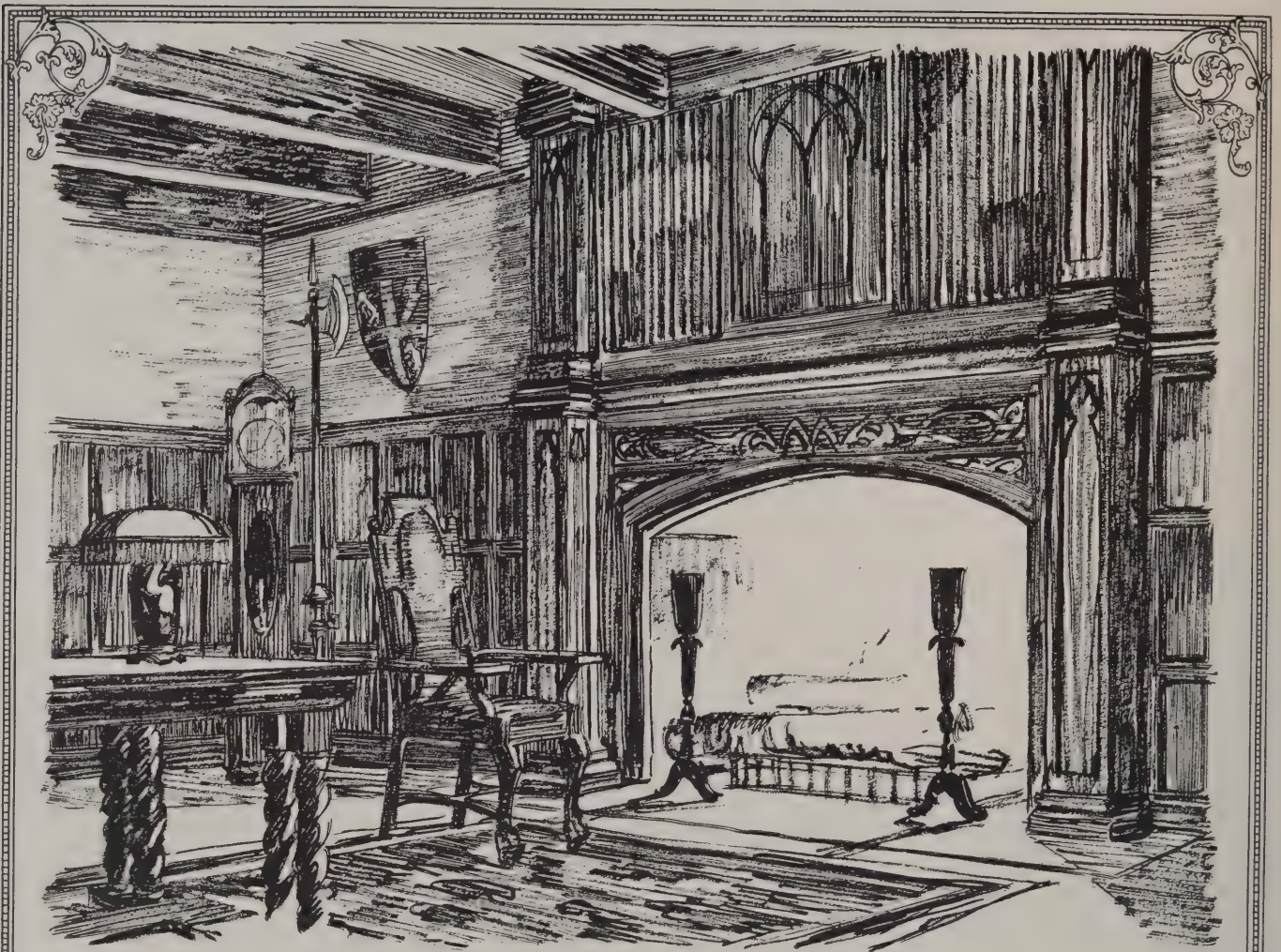
Murphy Brushing Lacquer has all the advantages of the lacquer type of finish, quick drying, resistance to heat and cold, water and steam. The colors are non-fading and the white resists the tendency to turn yellow more successfully than most white enamels.

Recommend Murphy Brushing Lacquer for radiators. A color card will be sent you gladly at your request.

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# Interesting Interiors

By M. REA PAUL, *Consulting Colorist*

Sixth of a series of articles discussing practical uses of the newer wall finishes obtainable with Dutch Boy white-lead and Dutch Boy flatting oil

## The Sponge-Mottled Finish

ONE of the advantages of the Sponge-Mottled Finish is its wide adaptability. Almost any room may be decorated successfully in this finish, whether it is used as an all-over treatment or in panels. In the case of panels there should usually be greater contrast between the colors selected than when an all-over pattern is employed. While almost any number of colors may be used, one or two in addition to the ground coat will ordinarily be found sufficient to produce a decidedly interesting effect.

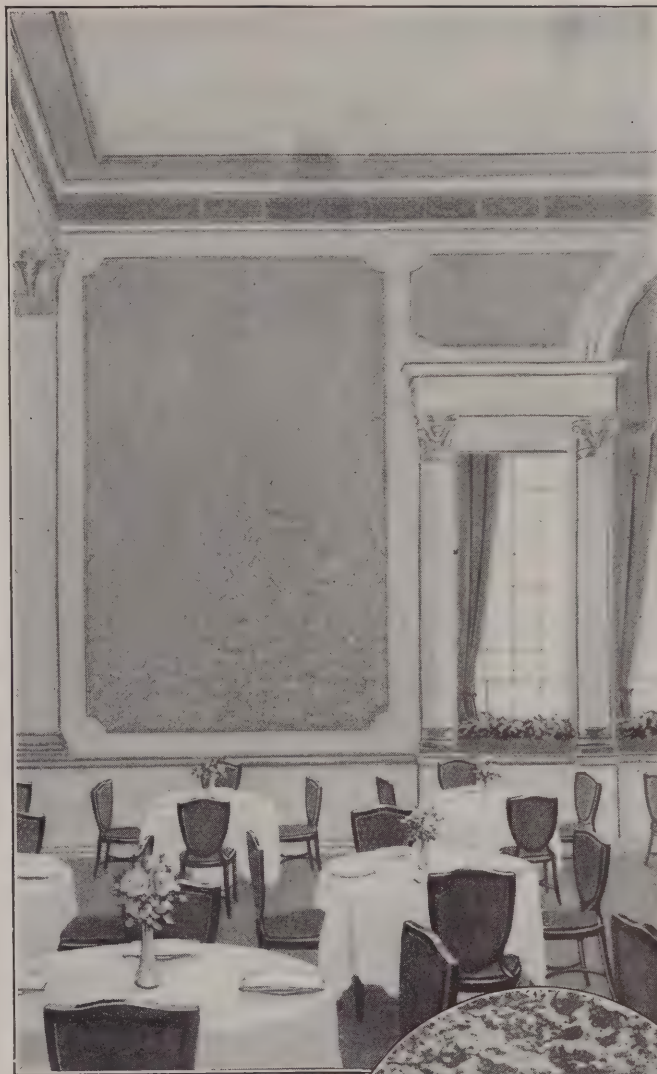
Either the undercoat or the mottling color may predominate in the Sponge-Mottled Finish. The amount of tamping on a unit of surface regulates to a large extent how much of the undercoat color will show.

The mottling color is usually applied in a haphazard manner with no attempt to secure a regular pattern, altho a regular pattern is occasionally used with very satisfactory results. As a rule, the haphazard mottling will prove more satisfactory for the reason that a great deal of the charm of the Sponge-Mottled Finish lies in its irregular pattern.

### *Suggestions for its use*

In addition to the formal dining room shown here, the Sponge-Mottled Finish may be employed successfully in the following rooms, with the suggested color treatments:

	Ground Color	Mottling Co'or
Lobby of theatre	Medium Brown	Golden Yellow
Smoking room of theatre	Cold Gray	Rose
Lobby of hotel	Red Buff	Light Red Buff
Restaurant of hotel	Soft Grayed Green	Light Cream Yellow
Lobby of club	Warm Gray	Light Yellow
Smoking room of club	Dark Blue	Gray
Waiting room of railroad station	Corn Yellow	Tan
Reception room of office	Tan	Blue Green
Lobby of apartment or bank	Buff	Cream
Living room of home	Yellow Buff	Light Golden Yellow
Bedroom of home	Shell Pink	Light Gray



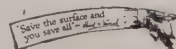
Formal dining room of a hotel showing the Sponge-Mottled Finish employed in panels. Reproduced from the booklet "Decorative Possibilities of Paint." Write our nearest branch for copy.



To the right, close-up showing the charming irregularity of the Sponge-Mottled Finish, secured by tamping on a finishing coat with the flat side of a sponge.

### *Booklet on Distinctive Finishes*

Complete directions and formulas for producing the Sponge-Mottled Finish are contained in a new booklet in color, "Decorative Possibilities of Paint." In it are also instructions for obtaining many other interesting finishes with Dutch Boy white-lead and Dutch Boy flatting oil. A copy of this booklet will be sent upon request.



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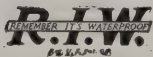
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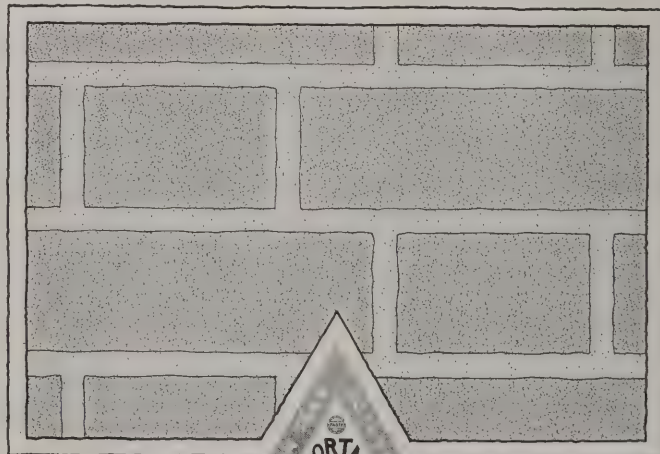
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**Specifications** It is made of Basswood, one of the lightest of the commercial woods, and on account of its light weight can be hung or attached where desired. Basswood has a fine, tight grain and soft texture, takes paint and enamel perfectly and accepts and retains a smooth finish.

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which in view of the change which has come over ecclesiastical building of every nature is both significant and helpful.

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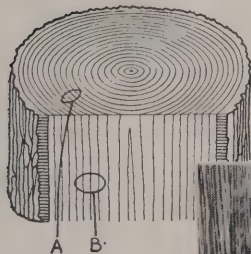


Fig. 1

Slow growth which depends on favorable climate, soil and drainage, causes the close annular growth rings (A), which, in turn, produce the fine, even grain (B), typical of all Ritter Appalachian Oak Flooring (Fig. 1), the use of which assures the most beautiful Oak floors.

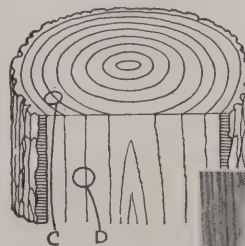
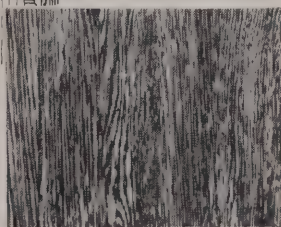
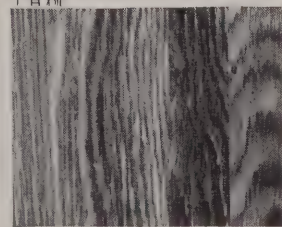
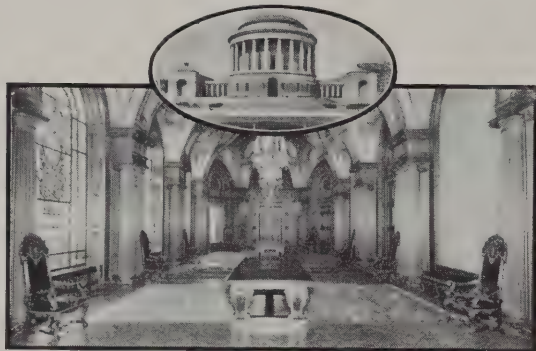


Fig. 2

Fast-growing Oak results in the wide annular growth rings (C), which, in turn, produce the coarse grain (D). Fig. 2 shows a panel of flooring made from rapid-growing Oak. Such flooring lacks the elegance and charm typical of Ritter Appalachian Oak Flooring which is manufactured exclusively from slow-growing Appalachian Highland Oak timber.



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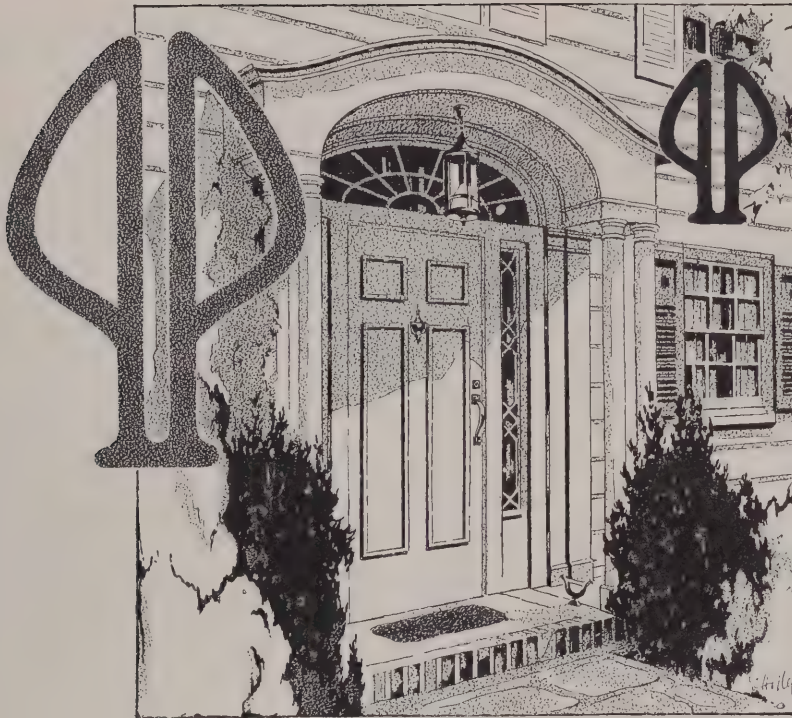
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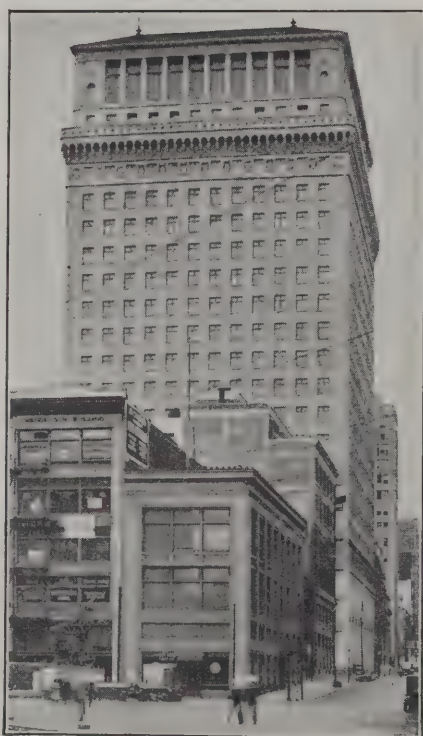
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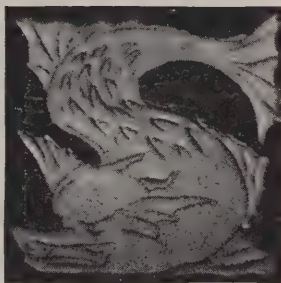
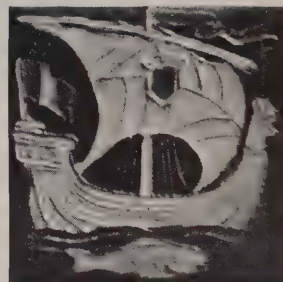




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## The Several Colors of Norton Aggregates Afford Opportunity for Attractive Effects Where Slip-proof and Wear-resisting Floors Are Desirable

THE floor in the entrance to the Hebrew Orphan Asylum, Amsterdam Avenue, New York, is an excellent example of the use of Alundum Aggregates in terrazzo to secure a walking surface that is both slip-proof (wet or dry) and wear-resisting. Three colors of Alundum Aggregates and three similar colors of marble chips in a contrasting diamond design have resulted in a floor that is strikingly attractive as well.

In one set of diamonds Botticino marble chips have been combined with approximately 30 per cent of cream Alundum Aggregates. In another set the marble chips are yellow Verona and the abrasive aggregates are buff, while in the third set of diamonds the marble chips are red Verona and the aggregates are brown in color.

**NORTON COMPANY, WORCESTER, MASS.**

New York, Chicago, Detroit, Philadelphia, Pittsburgh, Hamilton, Ont.





*The Queensbury Hotel,  
Glens Falls, N. Y.  
Ballroom floored with  
Maple*



## *Nature's lasting beauty for your floors*

Nature itself puts beauty and life and tenacious durability into Maple, Beech and Birch. The wind, the sunshine and the rain of the northern climate gives these woods their amazing toughness and firmness, with their close-grained compactness that invites a perfect polish and resists the hardest wear.

With the proper polish to enhance their natural hues, they provide a floor which appeals to the eye and mind. The architect likes them, because they harmonize with any scheme of decoration and wall finish. The builder likes them because they justify his good work.

Smooth, quickly cleaned, such a floor is easily kept free from dust and dirt, and steady wear only adds to its pleasing glossiness of surface.

Lay one of these floors right over your present floor, if you like. This can be done, regardless of the kind of floor you have.

Our Service and Research Department is a clearing house for accurate information about the utility and characteristics of Maple, Beech and Birch flooring. This information is freely given to any user of **MFMA** flooring. Let us assist you with your flooring problems. In order to co-operate in every possible way we have prepared the following booklets for your use. Any one or all will be gladly sent to you free upon request.

- ☐ *Color Harmony in Floors*
- ☐ *The Floors for Your Home*
- ☐ *Three Native Hardwoods of Sterling Worth*
- ☐ *How to Lay and Finish Maple, Beech and Birch Floors*
- ☐ *Floors for Educational Buildings*
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**MAPLE FLOORING MANUFACTURERS ASSN.**  
1057 Stock Exchange Building, Chicago

### *Guaranteed Floorings*

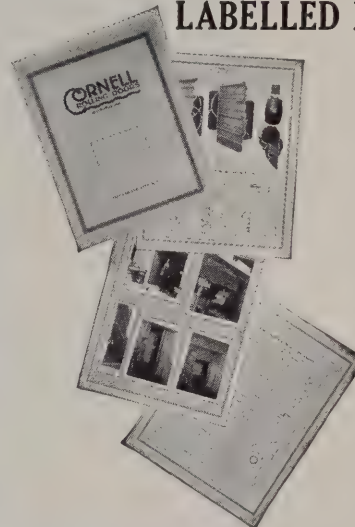
The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing

and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use.

**MFMA**

# Floor with Maple Beech or Birch

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Drawings, giving complete dimensions and clearances.

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36-23 Thirteenth Street,  
Long Island City, N. Y.

Please mail a copy of the new 1926 handbook and catalogue of Cornell Rolling Steel Doors and Fire Doors to

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**A**RCHITECTS, builders and construction engineers who select roofs for industrial buildings, hospitals, apartments, schools, etc., will find in Ruberoid Built-up Roofs the very qualities they most desire—unsurpassed ability to resist weather and wear combined with light weight and economy of construction.

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# RU-BER-OID

## Built-up Roofs



# The Finest Buildings use Grauer Sidewalk Lights



The laundry of the Book-Cadillac Hotel, Detroit, is a daylight work room. (Louis Kamper, Architect). This magnificent building is one of many handsome new structures in which the IMPROVEMENT of Grauer Sidewalk Lights is utilized. These lights give wide diffusion of daylight in basement rooms, and eliminate repair troubles.



Cheerful, pleasant, efficient, is the first thought of an observer of the modern laundry plant in the first basement of the palatial Book-Cadillac, Detroit's beautiful hotel. The girls in their smocks of varied colors make a rainbow in the sunlight. This is no idle sentiment—but practical business. For color means greater efficiency of workers, because they are satisfied with their working conditions.

Would they be thus satisfied in an artificially lighted basement? Could a well-organized force be maintained under those conditions? Here is a typical example of the revenue-producing effect of daylight—daylight that costs *less* than artificial light—daylight that actually pays for itself in a short time out of savings in electric current.

## Better Basement Light at Less Cost

### *And Repair Troubles Eliminated*

Grauer Sidewalk Lighting is distinctly a convenience and an investment. Grauer Lights are non-leakable, rust-proof, non-chipping, easily installed, rarely need replacing. Plastic cushions around each glass protect them from breakage and shaling due to expansion of surrounding concrete. Glasses broken by accident may be easily replaced by unskilled labor.

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#### DAY-LIGHTING

Sidewalk Lights  
Sky Lights  
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Our iron-clad guarantee provides that Grauer Sidewalk Lights shall be rust-proof, free from defect for one year; replacement glasses will be supplied free for five years. 300 lb. per square foot is the normal carrying capacity, although they can be made to carry 1000 lbs.

This coupon or your letter will bring clearly illustrated specifications bulletin, and special questions are welcomed.

## Albert Grauer & Co.

1408 17th Street Detroit, Michigan, U. S. A.

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Send specifications of Sidewalk Lights. Also data on  
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☐ Mastic Floors ☐ Sky Lights ☐ Floor Lights;  
Keep me on your regular mailing list for monthly  
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Name.....  
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A TILE ROOF OUTLASTS ANY HOME



*Residence of Walter Boschen, Architect, St. Joseph, Mo. Roofed with IMPERIAL Straight Barrel Mission Tiles in a variety of colors*

## On the Homes of Many Architects

IMPERIAL Roofing Tiles have been selected by numerous architects to roof their own residences. Among the latest is Walter Boschen, whose attractive home at St. Joseph, Mis-

souri, is illustrated above. No one appreciates better than an architect that a roof of these tiles is assurance of lifelong beauty and protection without repainting or repairs.

LUDOWICI-CELADON COMPANY  
Chicago, 104 S. Michigan Ave.      New York, 565 Fifth Ave.

# IMPERIAL

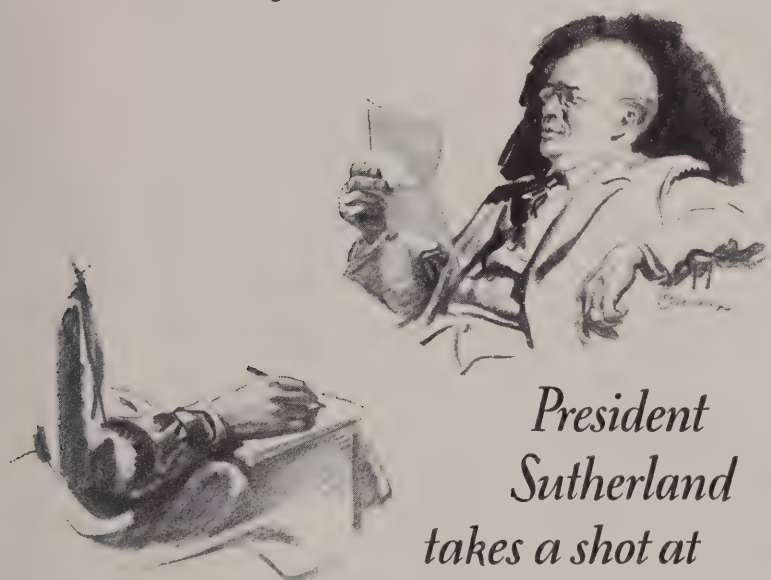
## Roofing Tiles





*We advertise this way  
to your clients —*

in Saturday Evening Post, December 4, 1926



## President Sutherland takes a shot at George Burt's "economy"

Four years ago, George, when we decided to build that Morton plant and put you in charge as superintendent, I let you have your say on the specifications. One item you balked at was a Barrett Specification Roof—said you could get a roof that was O. K. for less money.

Now let's face facts.

We have nine plants scattered over the United States. Eight of those plants have been built anywhere from eleven to sixteen years. On those eight plants we have Barrett Specification Roofs. To date not one cent for roof repair or maintenance from those eight roofs. But what about the Morton plant, *your* plant, built four years ago with your just-as-good roof? That roof cost us last year \$367.00 for repairs, plus damage to stock from roof leaks amounting to \$2160.

Do I have to point the moral?—

that cost per year of service, and not initial cost, is the important factor to consider when buying certain things. Roofs, for instance.

Yours very sincerely,  
R. K. Sutherland [*President*]

\* \* \* \* \*

Experience has proved that a Barrett Specification Roof will show the lowest unit cost (the cost per square foot per year of service) of any roof.

With it the owner receives a Surety Bond which guarantees him against any expense for roof repairs for 20 years.

Add this: Service records on file tell of great numbers of Barrett Roofs of this type laid 35 to 45 years ago which are still weather-tight—and never a cent for repairs. Finally—Barrett Specification Roofs take the base rate of fire insurance.

**Barrett**  
**SPECIFICATION**  
**ROOFS**

*— and here's your side  
of this roof thing  
(as other architects see it)*

Within the last few months we've asked a number of architects:

"Why do you specify Barrett Specification Roofs? What points about them interest you most?"

In the minds of these men these things loomed big—important!

1. No supervision by the architect is necessary to see that quantity and quality of materials are right. The Barrett Specification prescribes exactly the number of layers of Specification Felt, the amount of Specification Pitch, the top coat of pitch poured (not mopped) and finally the wearing surface of firmly embedded gravel or slag.

2. No supervision by the architect is necessary to make sure that a dependable man is laying the roof. The man who lays the roof must have earned a name for dependability. Only such men can qualify to lay a Barrett Specification Roof—can obtain a Bond for the owner.

3. No supervision by the architect is necessary to be sure that his client gets a roof in which every detail of material and construction is exactly according to a specification universally recognized as 100% right. Highly trained Barrett technical men are on the job while the roof is being laid to see that The Barrett Specification is followed in every detail.

4. Finally, a Barrett Specification Roof takes the base rate of fire insurance.

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**Black Sheets for all purposes**  
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APOLLO-KEYSTONE Galvanized Sheets give increased service and added permanence to your building construction. These are unquestionably the highest quality sheets produced for galvanized sheet metal work.

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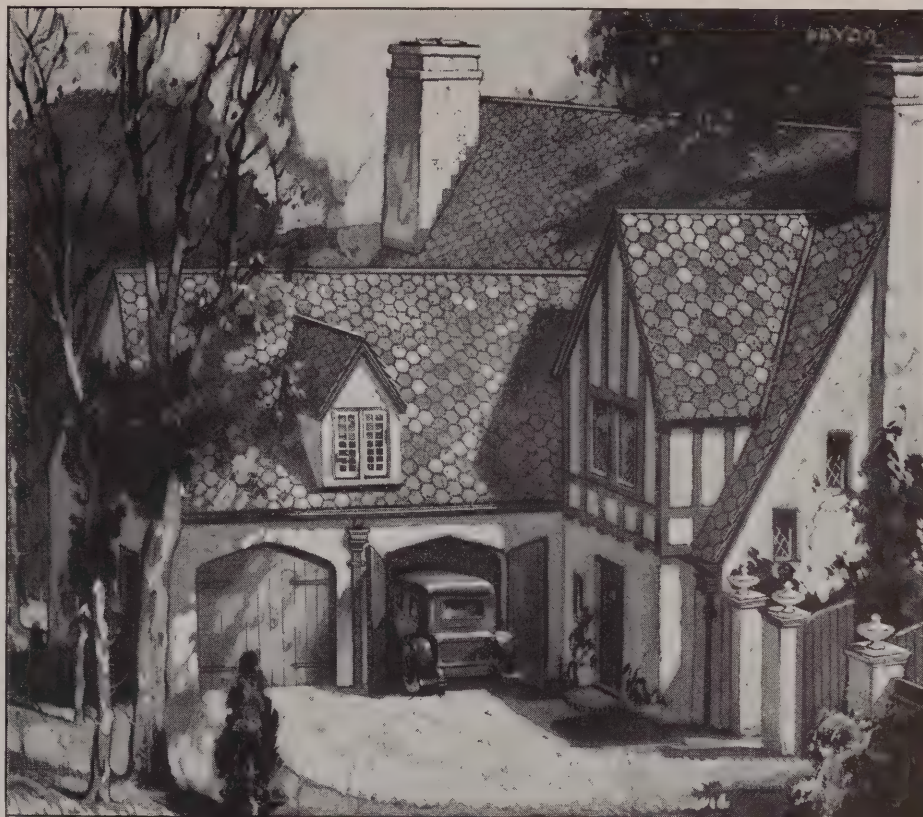
# KEWANEE

WATER  
 & LIGHT

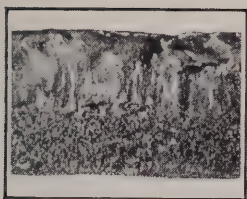


SEWAGE  
 DISPOSAL





# Harmonious colors *and* unusual thickness



MICROSCOPIC  
ENLARGEMENT

**T**HE wearing qualities of Preston Shingles depend not only on the quality but on the quantity of asphalt which each shingle contains. If you examine the edge of a Preston Shingle, you will notice that it is practically a solid body of asphalt. This feature of Preston Shingles accounts for their remarkable wearing qualities.

**T**HESE two qualities make a Preston Roof distinctive. Green, blue-black, red and a sunset blend are offered to the architect who seeks a distinctive color effect without obtrusiveness. Soft natural tints are secured from the slate particles with which Preston Shingles are surfaced.

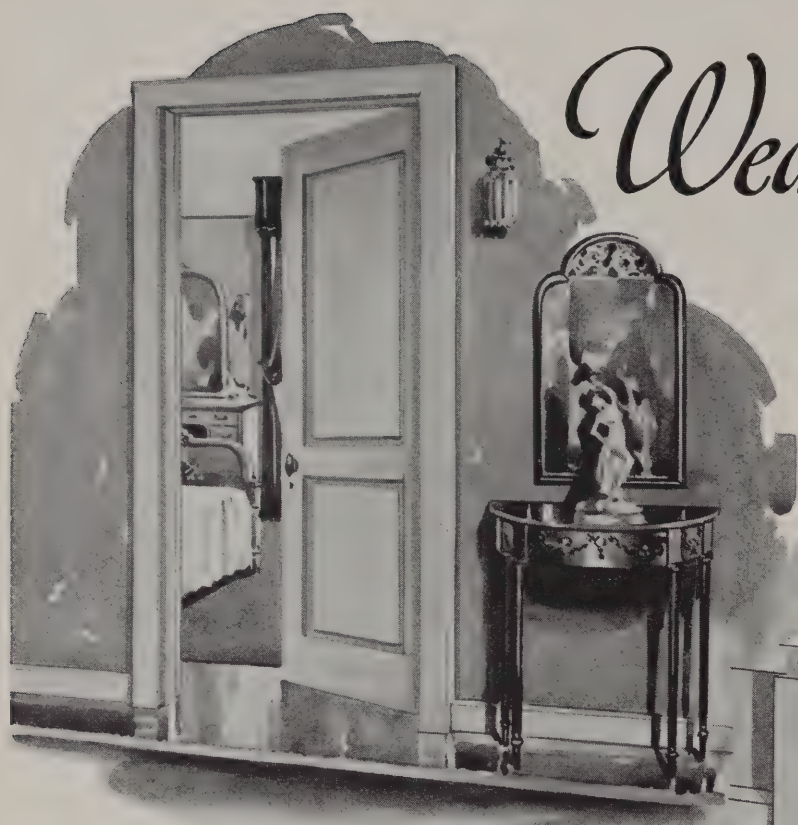
The Massive Weight is *one-third thicker than a No. 1 standard slate shingle*. This ample thickness creates the shadow line that architects demand. Samples of Preston Shingles and an information card for your files will be mailed on request.

Keystone Roofing Manufacturing Co., Dept. D24, York, Pa.

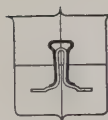
# Preston

## ROOFING





# Weatherstripping the Inside as well as the Out



THE inside door bottom illustrated here is but one of the many features Higgin can provide for the comfort and economy of your client. It prevents the passage of cold air from bedroom into halls, baths, or dressing rooms and can be installed on any door.

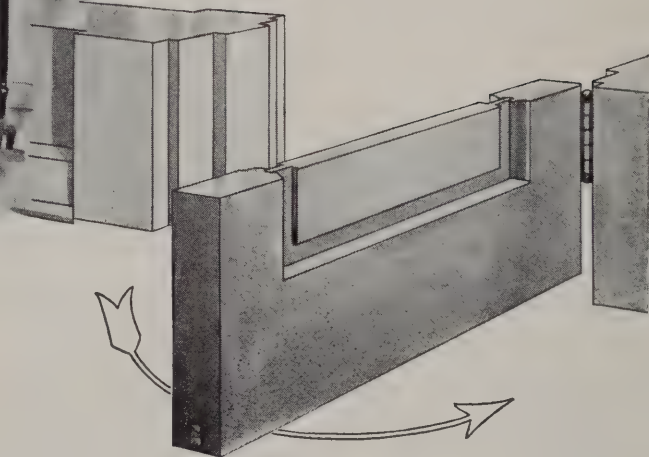
The Higgin Rib Track and Spring Temper Bronze Insert equipment is recognized as the outstanding weather-stripping for double-hung windows. (See detail panel above.) The track and insert form a metal-to-metal contact which drafts will not pass. Casements, also, can be perfectly equipped with Higgin-made and Higgin-installed weather-stripping.

Only thoroughly trained mechanics install Higgin Weather-stripping and the Higgin reputation backs every job. Our representative is at your call. He will be glad to work with you. Ask him in today. Look for "Higgin" in your telephone directory.

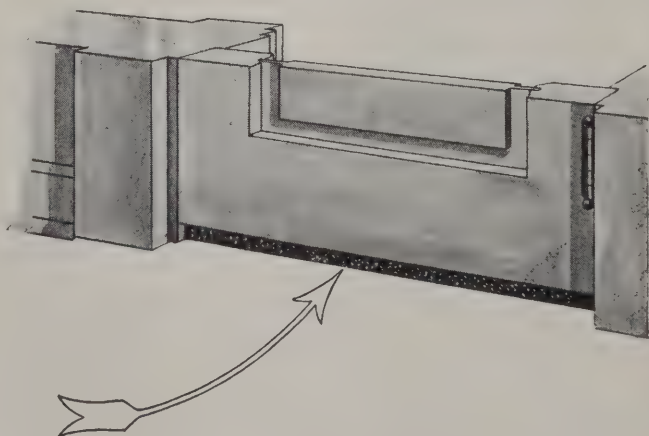
A. I. A. File No. 19 e 14 (Weatherstrips)

THE HIGGIN MFG. COMPANY  
Newport, Kentucky      Toronto, Canada

**HIGGIN**  
ALL METAL  
Screens and Weatherstrips

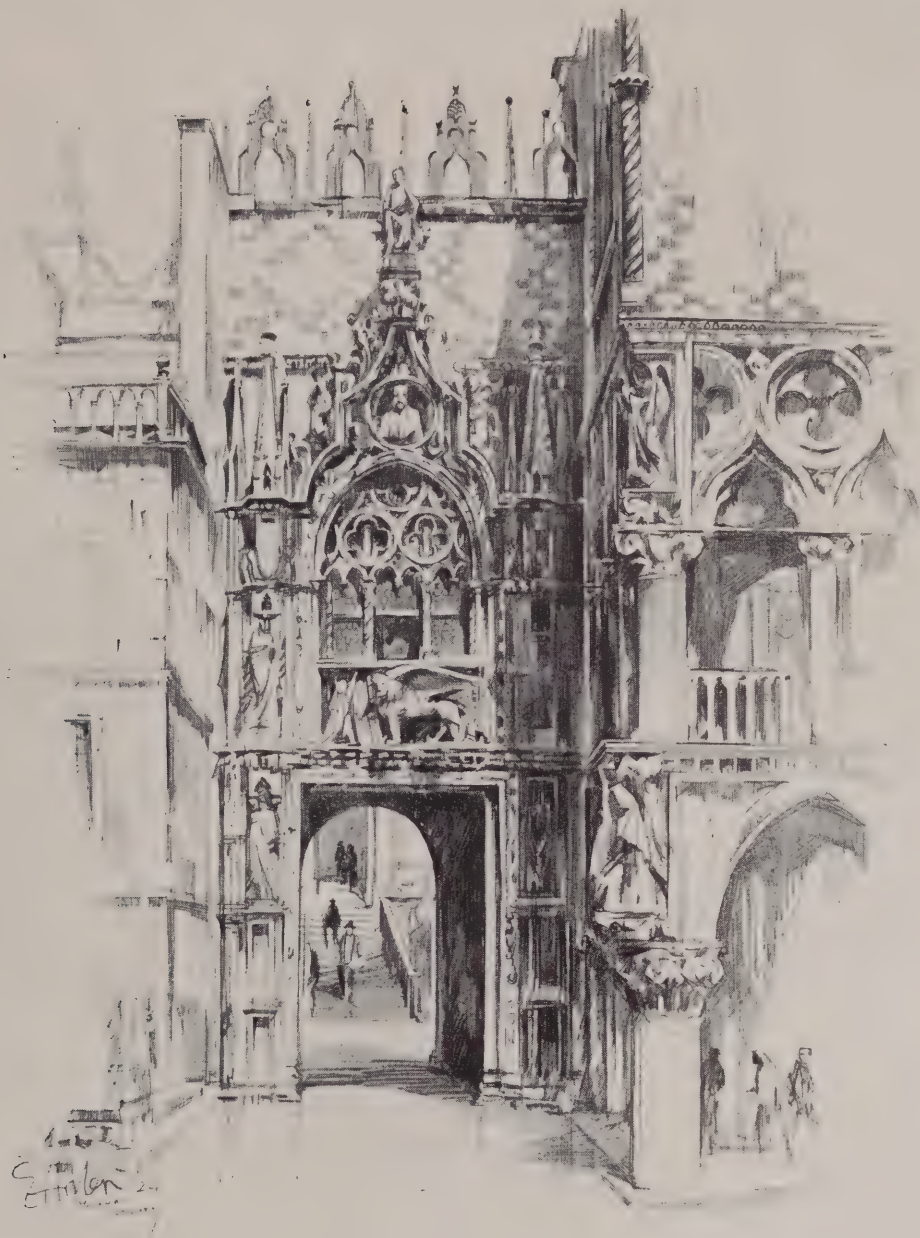


This illustration shows felt automatically raised flush with bottom of door when door is open thus allowing for free swinging of door over rug.



This illustration shows felt automatically lowered to a snug contact with the floor when the door is closed.





HERE is the doorway to the Doges Palace, through which many great rulers have come and gone—a beautiful piece of architectural ornament. The Eldorado pencil drawing shown above was made by Earl Horter from the piazza of St. Mark's.

## DIXON'S ELDORADO

*"the master drawing pencil"*

JOSEPH DIXON CRUCIBLE COMPANY  
Pencil Dept. 224-J, Jersey City, N. J.

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This is the fourth  
of the 1926 Quarterly Reference Numbers  
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THE  
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EACH Reference Number is a comprehensive treatise on a single type of building—complete, authoritative, up-to-date, and in many cases the only published work on the subject.

There are over 20 types of buildings of sufficiently vital interest to architects to form the subject matter of Reference Numbers. Since these issues appear quarterly, a little more than five years are required to complete the cycle. Once the cycle has been finished, the subjects will be treated anew, thus placing before an architect a record of progress made and forming a self-perpetuating reference library for his office.

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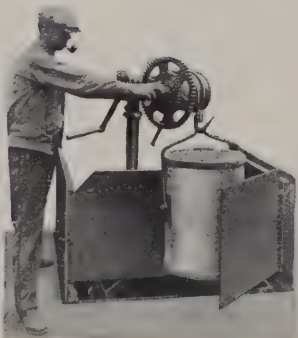


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When the picture on the opposite page was taken, three top floors had not been decorated. Here is the well balanced list of materials for the first five floors:

Flat-Tone	800 gallons
Flat-Tone Size	375 gallons
Semi-Lustre	75 gallons
Semi-Paste Paint	45 gallons
Old Dutch Enamel	60 gallons
Handcraft Stain	40 gallons
Shellac	45 gallons
Mar-Not	75 gallons
Concrete Floor Paint	30 gallons
Flat Rite	100 gallons
Oil Colors	200 pounds
Paste Filler	300 pounds
Zilo	800 pounds
ODP Lead	2100 pounds
Decotint	1500 pounds
Floor Wax	75 pounds

## THE LARGEST PAINT AND VAR-



# WILLIAMS

## LACQUERS • ENAMELS

### The SOPHIAN PLAZA APARTMENTS

One of the seven new Tulsa, Oklahoma, buildings finished throughout with Sherwin-Williams paints and varnishes in the last year. Architects: Shephard & Wiser, Kansas City, Missouri. Paint Contractor: R. M. Burchet, Tulsa, Oklahoma.



## In Tulsa's 7 new big buildings

The Sophian Plaza Apartments rank with the largest and finest buildings in Oklahoma. Last year Sherwin-Williams paints and varnishes were used exclusively in this and six similar new buildings in Tulsa alone.

Sherwin-Williams finishes bring public-building durability combined with color and texture to interpret any scheme. The large technical laboratories and complete decorative service of Sherwin-Williams can prove helpful in planning the decoration of all types of buildings.

THE SHERWIN-WILLIAMS COMPANY  
Cleveland, Ohio

# NISH MAKERS IN THE WORLD



Above shows "out of service" condition



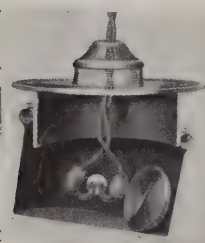
The cover is easily removed



The Flat Plug is removed from cover and the cover is reversed. Note the high rim protection on "in service" side of cover







The Split Bushing (at left) takes the place of the Flat Plug



Here is shown the "In Service" condition. The Flat Plug is placed in the Floor Box for safe keeping

## SPECIFY Floor Boxes (with reversible covers)

Frankly, you will not find the same collection of good features elsewhere.  Floor Boxes are *adjustable*. They can be installed at any angle, yet the top can be adjusted to the proper floor level.  Floor Boxes are *substantial*. They cost less than two-cover type. They become a permanent floor connection for lights, bells, buzzers, telephone, etc. A quick change from "out of service" to "in service," or vice versa, can be made at any time.  Floor Boxes are *water-tight*. A heavy, round, long-life gasket gives full protection from all moisture. The inside is always dry. The wiring can never be damaged . . . You should be interested to learn more—

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# Frank Adam

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## The Architecture of Show Windows

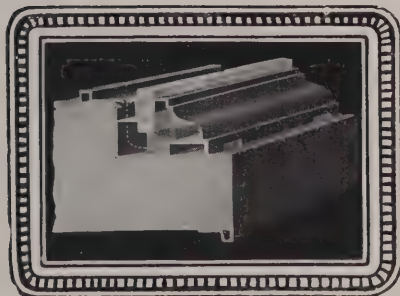
**I**NCREASING store rentals have produced a marked trend toward more effective use of window display space. Bays, recesses, island windows are a natural result of the attempt to lengthen out the actual display frontage, particularly of narrow stores.

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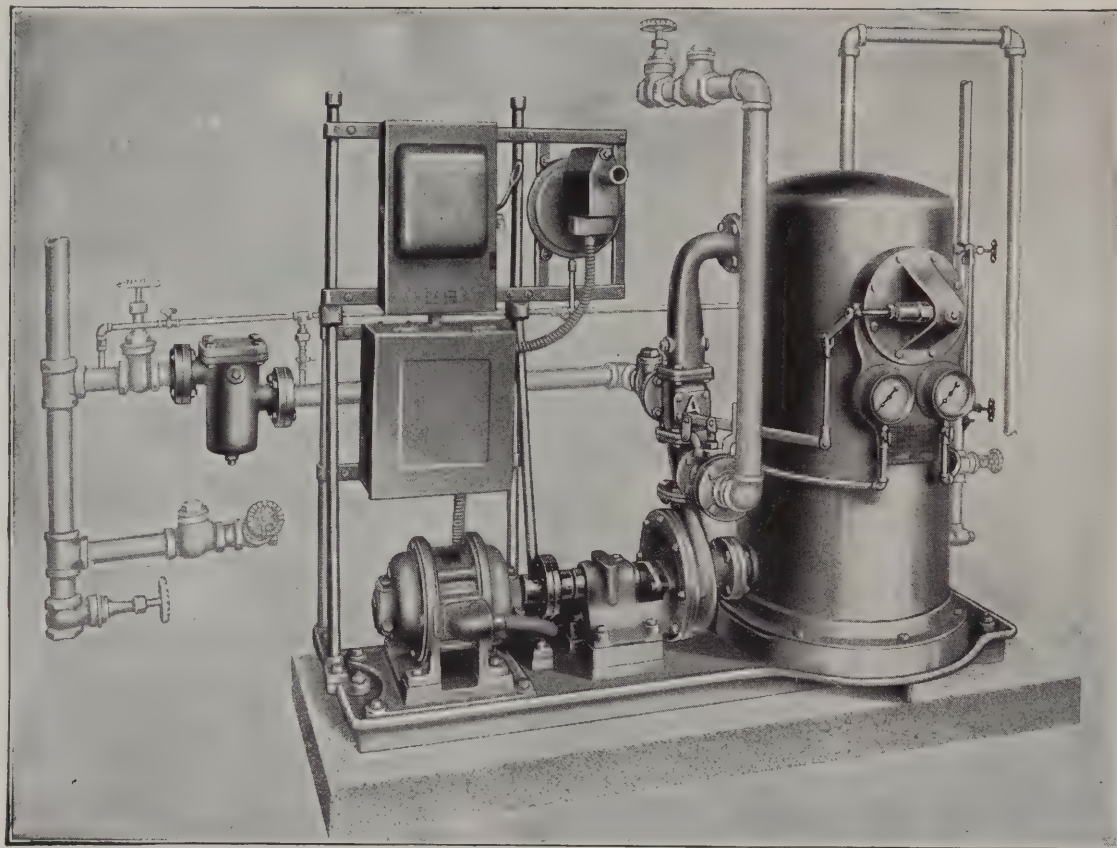
5031 Wabash Avenue, Chicago

Eastern Sales Office and Warehouse

28-14 Wilbur Ave., Long Island City, N. Y.

**Brasco**  
COPPER STORE FRONTS



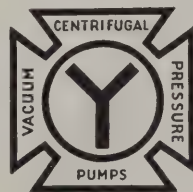


VI Unit equipped for automatic vacuum control, showing piping connections. Suction strainer and check valve at inlet of pump are furnished with unit, as well as companion flanges, bolts and gaskets

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**Y**OUNG PUMPS are installed with the least amount of labor and expense because they are shipped from the factory as completely assembled units. The electrical equipment is already mounted ready for connection to the supply lines.

When setting up the pump there are only two principal piping connections to be made, and the electrician's only work is to connect the feed wires to the pump switch. The unit is then ready to operate.

Before being shipped each Young Pump is connected and run for hours under rigid working conditions. Every part must be correct and every bearing perfectly aligned. This careful test insures proper operation the first time the switch is pulled.

*Supplied in  
Standard Units of  
Seven Capacities*

Because of their simple, rugged construction Young Pumps may be depended upon to deliver constant uninterrupted service in the hands of the average janitor or boiler fireman.

**YOUNG Pump Company**

DUNHAM BUILDING  
450 East Ohio St., CHICAGO  
Factory: Michigan City, Indiana

In Canada: C. A. DUNHAM CO., Ltd.  
1523-41 Davenport Road, Toronto

*Young Pumps Have Large Reserve Capacity*



# No. 8601 SQUARE

H&H

No 8601

Square Handle

TUMBLER  
Switch

## Reputations in the "balance"

REPUTATIONS go on trial when Switches go into the walls. Installed to be as permanent as the walls, these lighting controls concern the Architect as key-mechanisms in a building's service.

If a switch fails after a few thousand snaps, someone's confidence "snaps" in the specifier. Is it ever well to risk a name on a thing so small in cost? Is it ever wise to yield the point of *assured performance* to a shading in price?

So far as switches can safeguard a name—your own and ours—rely on the "*balanced movement*." Here in the "8601 Tumbler" is the smoothest of actions, the freest from impact; mechanically most immune from wear.

Practical tests of the Balanced Tumbler have established records unparalleled in the performance of switches. That's where your H & H workmanship *counts*:—not in claims but in hundreds of thousands of snaps.

*The connecting link between good Reputations and good, reliable Switches is Catalogue "S." Sent gladly if you'll drop a line to the "Makers of electric switches since 1890."*

THE HART & HEGEMAN MFG. CO.  
HARTFORD, CONN.

"THE SWITCH WITH THE  
BALANCED MOVEMENT"

# A Complete Kitchenette in

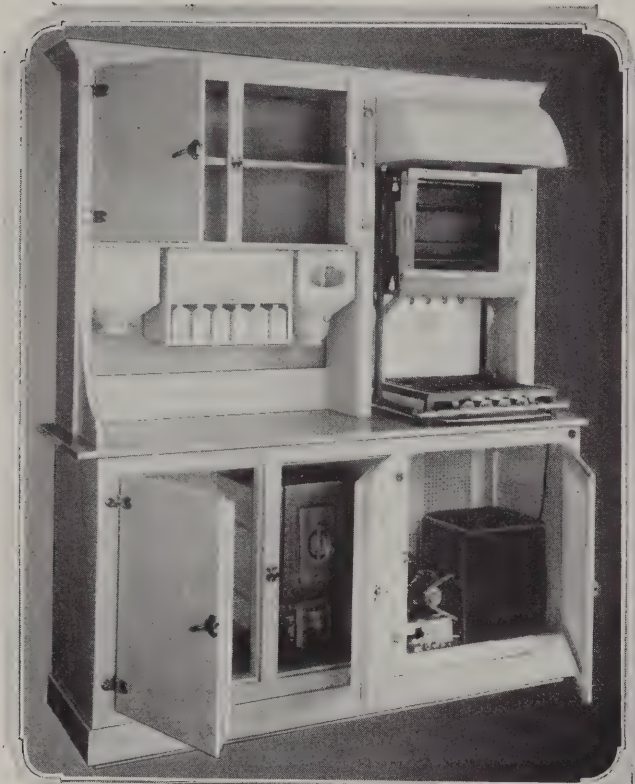
## The "White" Duo-Unit Kitchen Cabinets

One of the Greatest Contributions to Modern Apartment Comfort—providing a complete Kitchen in as little space as 5'9" x 7'0"!

Including

Sink  
Range  
Work Table  
Broom Closet

Refrigerator  
Linen Chest  
Complete Pantry  
Folding Ironing Board



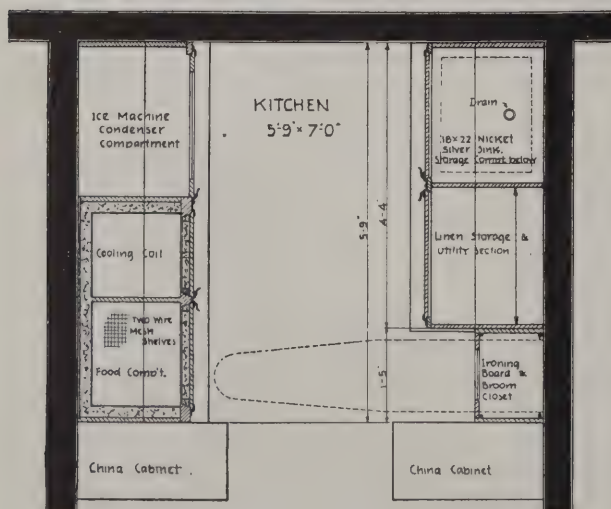
"White" Duo-Unit Cabinet A

Unit A—Contains range, refrigerator designed for electrical refrigeration, storage space, sugar and flour bins, spice jars and work table. When used with Unit B the result is the most efficient conception of a kitchenette within a minimum of floor space—less than 40 sq. ft.

Unit B—Contains full size sink with work top, ironing board, storage compartments and linen trays. The use of these two units forms a compact arrangement of maximum convenience in a space as small as 5 ft. 9 in. x 7 ft.



"White" Duo-Unit Cabinet B



Floor plan showing proper placing of cabinets and illustrating the compact, convenient arrangement made possible by the "White" Duo-Unit Kitchenette.

**T**HE "WHITE" Duo-Unit Kitchen Cabinets are part of the famous line of "WHITE" Door Beds, Kitchen Cabinets, Dressing Cabinets, Ironing Boards and other Space-Saving Conveniences. Complete Catalog with typical floor plans will be sent free. Shows many ways of conserving space and reducing building costs.

The floor plan at the left shows the marvelous efficiency of the "White" Duo-Unit Cabinets and the many conveniences provided in a minimum of space. Write for complete information



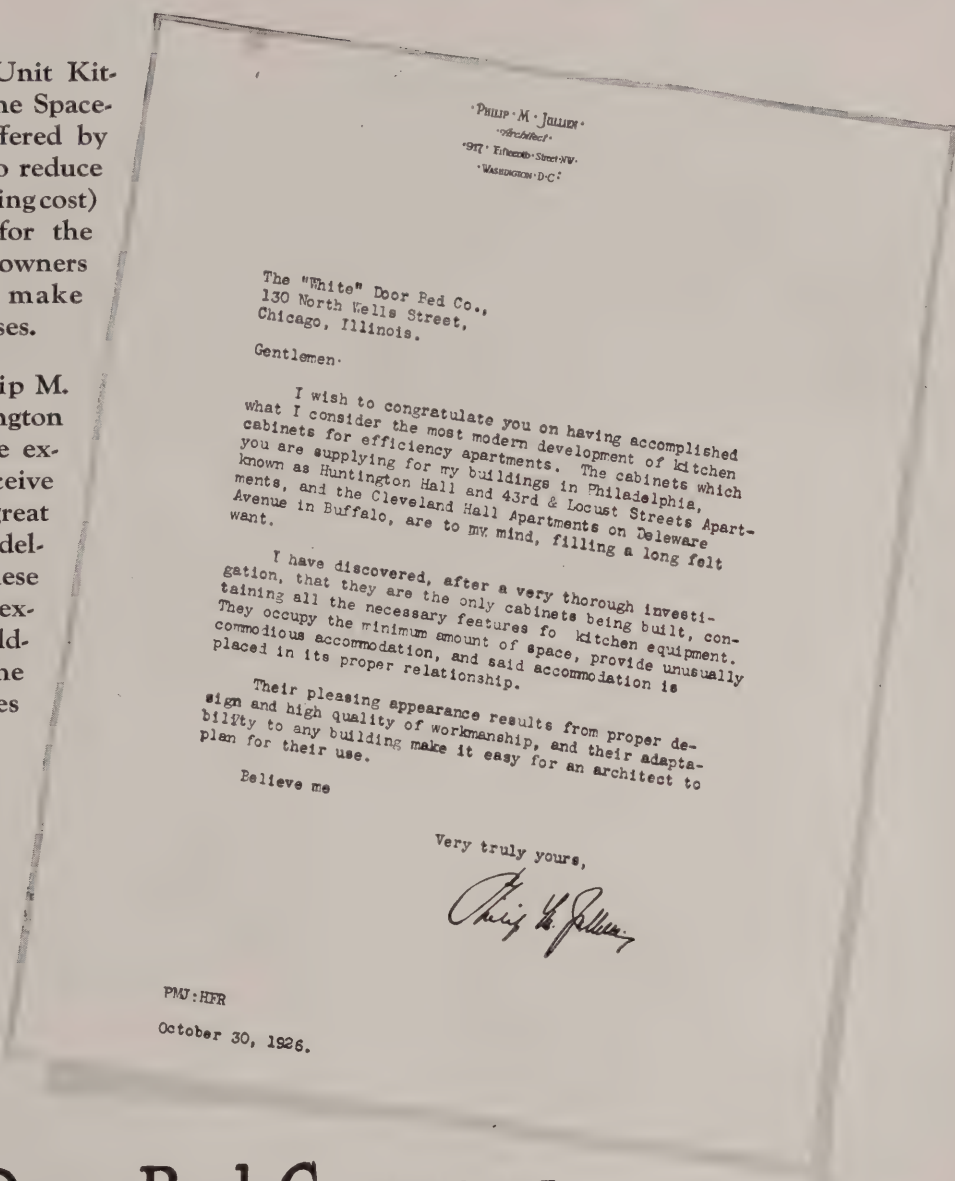
# these Two "White" Cabinets

THESE "WHITE" Duo-Unit Kitchen Cabinets, like all the Space-Saving Conveniences offered by this company, are designed to reduce space (and consequently building cost) while increasing comfort for the tenants. They appeal to owners and tenants alike. They make rentals easy and prolong leases.

This letter from Mr. Phillip M. Jullien, prominent Washington Architect, is typical of the expressions of approval we receive constantly. Plans for three great apartment projects in Philadelphia and Buffalo specify these new "WHITE" Cabinets exclusively. Architects and builders alike pronounce them the most advanced conveniences for modern apartments.

## Write for Catalog

Our new large catalog, including many typical floor plans, will be sent free. Our Engineering Department will gladly show you how "WHITE" Cabinets can be adapted to your buildings.



## The "White" Door Bed Company

130 North Wells Street ~ Chicago, Ill.

SALES AGENTS IN ALL THE PRINCIPAL CITIES

"White" Duo-Unit Cabinets used in these great buildings



CLEVELAND HALL  
Buffalo  
Phillip M. Jullien, Arch.



43rd and LOCUST APARTMENTS  
Philadelphia  
Phillip M. Jullien, Arch.

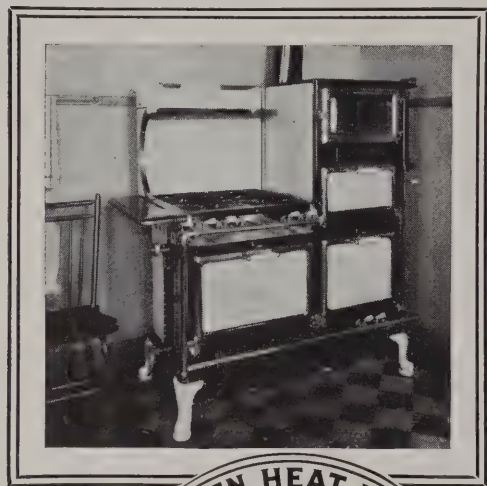


HUNTINGTON HALL  
Philadelphia  
Phillip M. Jullien, Arch.

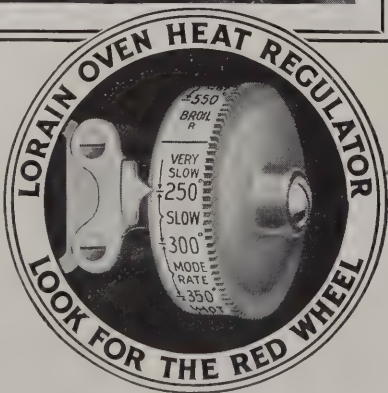


## Make Room for Kitchen Progress

Illustration above shows residence of Mr. J. Paul Zens, 2891 Paxton Road, Shaker Heights, Ohio. Architect, Philip Lindsley Small, Cleveland, Ohio. Below: Interior view of kitchen with Lorain-equipped Dangler Gas Range.



One easy turn of the Lorain Red Wheel gives the housewife a choice of any measured and controlled oven heat for any kind of oven cooking or baking.



Unless the Regulator has a RED WHEEL it is NOT a LORAIN

THE provision of adequate space for a Lorain-equipped Gas Range of cooking capacity in proportion to the size of the household should be a major consideration in planning the kitchen.

Women examining new homes look for the Red Wheel that identifies the Lorain Self-regulating Oven, because it means perfect cooking, easy canning and leisure.

More than 1900 school and university domestic science departments use Lorain Red Wheel Ovens. Millions of women see the Red Wheel advertisements that appear continually in their favorite magazines.

Lorain Red Wheel Ovens are built only in the following famous makes of Gas Ranges: Reliable, Clark Jewel, Dangler, Direct Action, New Process and Quick Meal. For specific data see Sweet's Catalog, 20th Edition, Pages 2769-2778 or send for our Handbook on Gas Ranges for Architects and Builders.

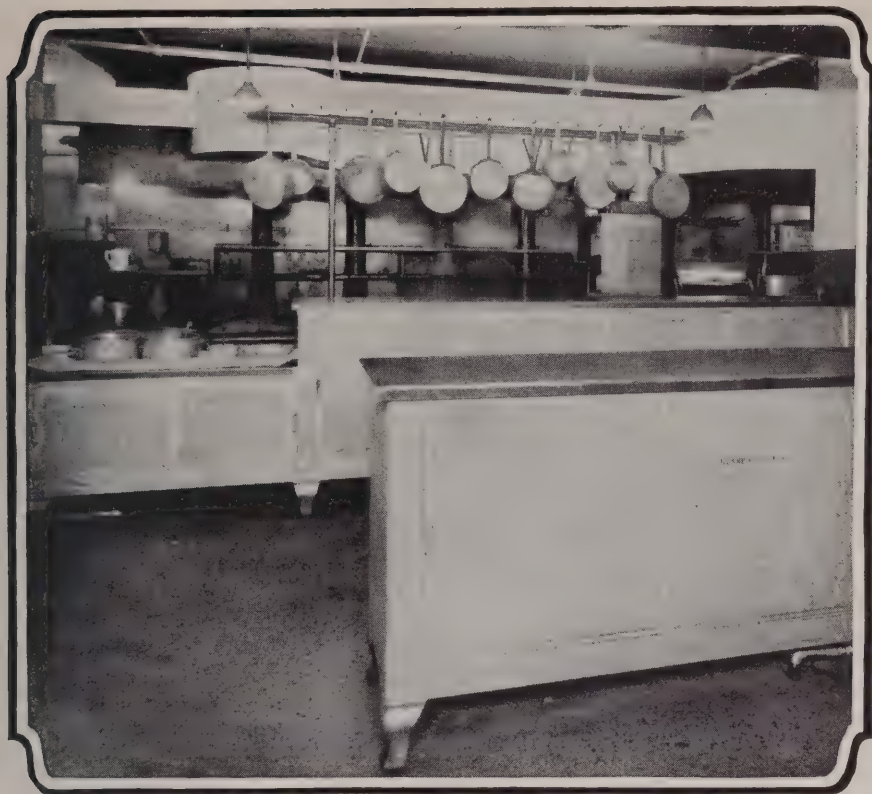
**AMERICAN STOVE COMPANY**

*Largest Makers of Gas Ranges in the World*

444 Chouteau Avenue     St. Louis, Mo.

# LORAIN OVEN HEAT REGULATOR





The Morton House, Grand Rapids, Michigan, is a consistent user of "Van" Equipment. Illustrated here is a partial view of the "Van" Kitchen in this hotel.

# Why Leading Hotels specify "Van" Equipment!

**E**CONOMY is always a first consideration—and it is a lasting one when you buy "Van" Equipment.

That's one of the reasons why leading hotels of every size specify "Van" Equipment every time. It is their assurance of low cost in the beginning and economy always. "Van" Equipment is really worth twice its cost because of the double service and satisfaction it provides.

Perhaps you are planning to replace part of your equipment—or entirely remodel your present kitchen. In either case, for the sake of economy and satisfaction, consult the House of Van.

**The John Van Range Co.**  
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD  
Cincinnati

NEW ORLEANS  
CLEVELAND

ATLANTA  
CHICAGO

LOUISVILLE  
DETROIT



The Morton House, Grand Rapids, Mich., one of the Mid-West's best known hotels.



## A Memorial of the Past That is Built for the Future

Nowhere in the world can there be found the counterpart of the Elks National Memorial Headquarters Building in Chicago. It combines in one beautiful design the two functions of a War Memorial and the executive headquarters of a great national fraternity.

In a building designed to stand with all the endurance of the hills from which its marble walls were carved, how fitting was the selection of

Neptune brand Atlantic wires for the electrical circuits.

All three Atlantic brands—"Neptune," "Triton," and "Dolphin"—have been known to architects for over a quarter century. Their longevity and high dielectric strength are recognized

as the best insurance against wiring troubles in any building.

Samples and detailed specifications will gladly be sent to any architect or engineer.



Above—Another Atlantic installation, the Elks National Memorial Headquarters Building, Clinton and Russell. Architects: Lord Electric Company, Electrical Contractors.



Neptune—30% Hevea Rubber Compound  
Triton—Intermediate 25% Hevea Rubber Compound  
Dolphin—National Electric Code Standard Compound

ATLANTIC INSULATED WIRE & CABLE COMPANY, Rome, N. Y.

# ATLANTIC

## INSULATED WIRES AND CABLES

*The Insulation is Cured Before Vulcanization*



# Shadowless Illumination

*The Picture  
Tells the Story!*



D. F. DAVIS  
Commercial Photographer  
311-14 Fourth Bldg.  
SALT LAKE CITY, UTAH  
Oct. 16, 1926.

The Edwin F. Guth Company.  
Saint Louis, Mo.

Gentlemen:

Attention Mr. J. L. Macdonald.

We are sending under separate cover the twenty prints of the Sterling Furniture Co. store ordered in your letter of the 12th. No flashlight or other source of light was used in making these exposures. The Guth-Lites were burning throughout the exposure which accounts for the absence of shadows. It would have been impossible to have made flashlight or any other concentrated light reach to the back of the store.

Thanking you for the order, and trusting that the prints will be entirely satisfactory.  
I am,

Yours truly,

*D. F. Davis*

Study the wonderful illumination of this store. Note the absence of shadows. No glaring reflections from polished surfaces. The photo was taken entirely by the illumination from GuthLites, spaced the average distance apart, and is unretouched.

GuthLite gives a flood of diffused, controlled light. Adjustable reflector controls the rays vertically and horizontally. Wide light distribution. Write for regulation GuthLite folder with A. I. A. file number.

**The EDWIN F. GUTH COMPANY**

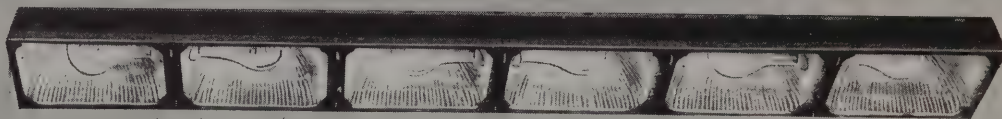
DESIGNERS - ENGINEERS - MANUFACTURERS

*Lighting Equipment*

ST. LOUIS, U.S.A.

# GUTHLITE

Super-Illuminator



A self-contained unit for every size window —

and only one connection  
to make!



## The New Silverlite Multilite

**F**OR economy and ease of installation, for greater efficiency of operation we have produced Multilite reflectors — the newest, most modern development in window lighting.

With either 2-4-6-8 or 10 light units Multilite comes ready to install with but one connection to make

through knockout in end of reflector.

The reflectors are the famous all metal Silverlite of highest efficiency.

Adjustable to any window or condition Multilite comes ready to install. No parts to lose. Extra frames for screens unnecessary. Finish, Walnut Brown. Write for circular 79.

Established 1857

# THE FRINK CO. Inc.

241 Tenth Avenue, New York

*Representatives in all principal cities*





# *Gives a Stronger Spot*

The new "Pittsburgh" Windo-Spot No. 500 is for intensive spot lighting where the user desires a stronger beam than is given by our Windo-Spot No. 200. It accommodates either 300 or 500 watt lamp. Gives a concentrating beam with candle-power maximum of 52,000, more than 100 candle-power per watt. Equipped with adjustable bracket for attaching to ceiling of show window or other supporting surface. Reflector may be tilted to any desired position and held there by a single thumb screw.

## New "PITTSBURGH" Windo-Spot—No. 500

There are 44 reflectors in the "Pittsburgh" line—to meet every need in the lighting of show windows; for direct and indirect lighting; for cove lighting, flood lighting, etc. "Pittsburghs" are all guaranteed for five years, and their wonderful record proves that they *stay bright*. If your files do not contain "Pittsburgh" brochures on Show Window Lighting (A.I.A. File No. 31F14) and Cove Lighting (A.I.A. File No. 31F17) they will be sent on request.

### PITTSBURGH REFLECTOR COMPANY

411 Bowman Building Third and Ross Streets  
PITTSBURGH, PA.

REPRESENTATIVES IN 26 LEADING CITIES

**PITTSBURGH SILVERED REFLECTORS STAY BRIGHT**

# The Shadow Chasers



Homeopathic Hospital Annex, Pittsburgh, Press C. Dowler, Pittsburgh, Architect. Lighted with Cremax Globes.

## *Ample Light without Glare*

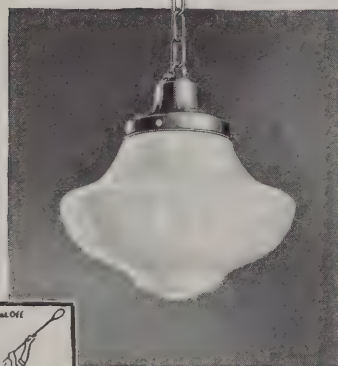
**D**OCTORS, internes and nurses must not be hampered by dim, insufficient light or light that glares. Mistakes in a hospital are costly.

For that reason, CREMAX GLOBES were chosen to light the new Homeopathic Hospital Annex in Pittsburgh. These globes, artistic as well as scientifically correct, shed a bountiful flood of light into the farthest corners. There is no Glare, no sharp Shadow. Light is diffused in all directions.

Patients, too, appreciate this gentle, even, abundant light. It is not tiring or nervewrecking to gaze at these rich chrome-tinted, gracefully-shaped globes.

CREMAX—a natural colored glass—is the newest development in illuminating glassware from the laboratories of the Macbeth-Evans Glass Company. It transmits a rich, warm, cream-colored quality of light, free from tones of green.

The Illuminating Engineering Department of Macbeth-Evans will gladly furnish any information you desire for the solution of lighting problems. You do not incur any obligation by making use of this service. MACBETH-EVANS GLASS CO. (Eastern Division), Dept. J, Charleroi, Pennsylvania.



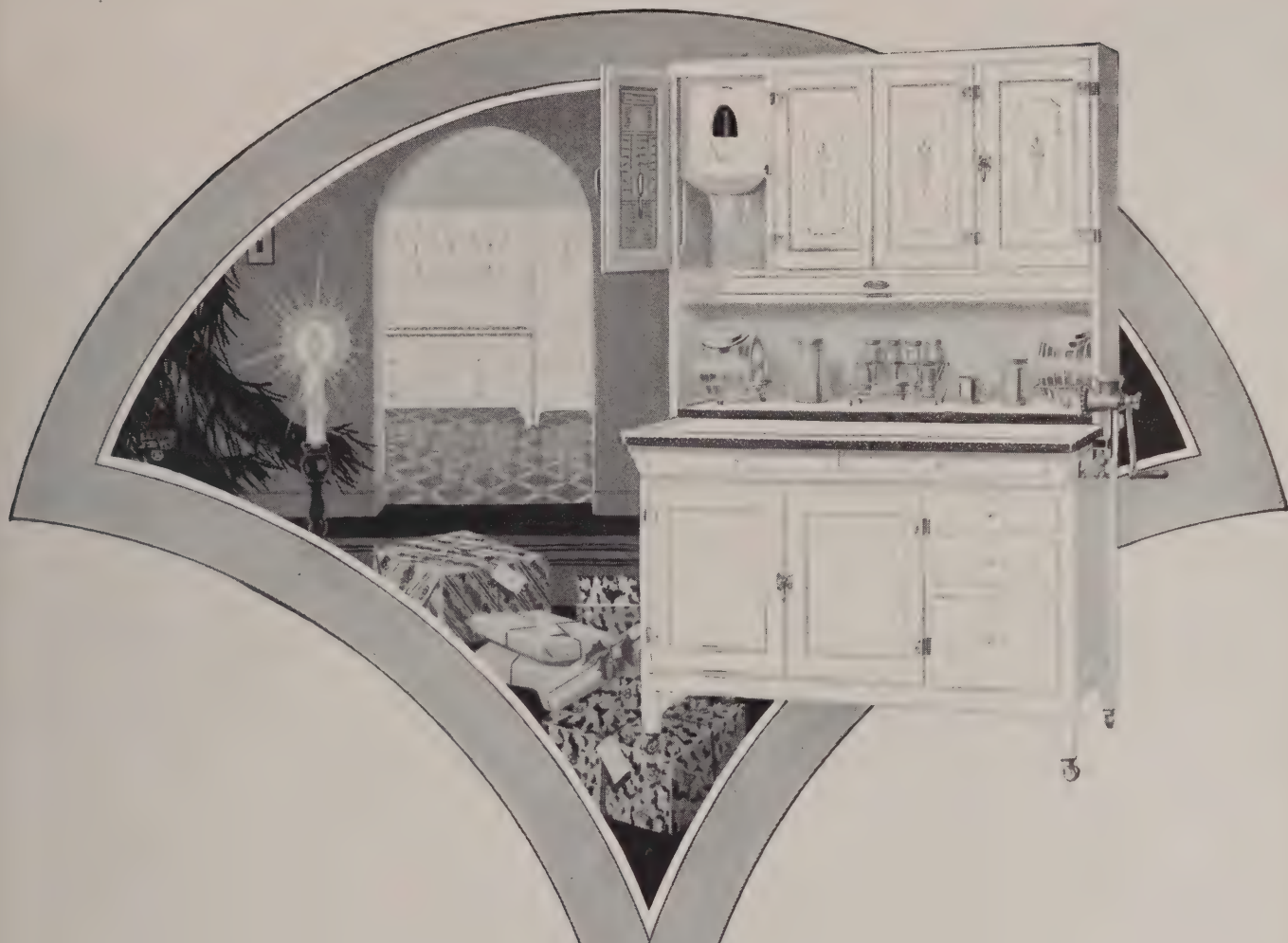
Cremax No. 4385, attractive in design—chosen to light the Homeopathic Hospital Annex, Pittsburgh.

FOR BETTER

**CREMAX**  
*Globes*

LIGHTING





### *Here is a thoughtful booklet*

We want to send to every architect and home-builder in America a carefully prepared booklet which we now have ready for mailing, in which is interestingly set forth the need of taking the kitchen cabinet problem into consideration at the time the home-plans are made. Some architects are not thinking far ahead in this important matter of kitchen equipment. G. I. Sellers & Sons Company, Elwood, Indiana, will gladly mail to you a copy of this booklet upon your request, without cost and without obligation.

### *The cheapest kitchen equipment*

As compared with built-in cupboarding, the modern kitchen cabinet, especially with the associated utility closet, is certainly more beautiful, more sanitary, and much more highly developed in labor-saving conveniences. It is also equally flexible because it can be combined with utility closets to fit any need. It costs less than built-in shelves, being made and finished by standardized methods as against slow hand work. No cupboarding, however elaborate, can possibly take the place of the modern kitchen cabinet.

SELLERS  
KITCHEN CABINETS



SELLERS  
UTILITY  
CLOSET

# SUCCESSFUL PROPERTIES



THE Straus Plan of Finance revolves around one simple principle—to lend only upon successful properties. The results of 44 years in underwriting first mortgage real estate securities proves the soundness of the principle, and is another reason why investor, architect, contractor and builder best can serve themselves by bringing their financing problems to S. W. STRAUS & CO.

We are always interested in loans of \$250,000 upward, either on completed buildings or structures to be built, *provided* that the undertaking is soundly conceived and embodies those factors which we all commonly recognize as making for success.

Write today for our booklet, "The Straus Plan of Finance", and direct your request to our

LOAN DEPARTMENT

## S.W. STRAUS & CO.

Established 1882

Investment Bonds

Incorporated

STRAUS BUILDING

565 Fifth Ave. at 46th St.

NEW YORK

STRAUS BUILDING

Michigan Ave. at Jackson Blvd.

CHICAGO

STRAUS BUILDING

79 Post Street, SAN FRANCISCO

44 YEARS WITHOUT LOSS TO ANY INVESTOR



# Selected List of Manufacturers' Publications

FOR THE SERVICE OF ARCHITECTS, ENGINEERS, DECORATORS, AND CONTRACTORS

The publications listed in these columns are the most important of those issued by leading manufacturers identified with the building industry. They may be had without charge, unless otherwise noted, by applying on your business stationery to *The Architectural Forum*, 383 Madison Ave., New York, or the manufacturer direct, in which case kindly mention this publication.

## ACOUSTICS

- The Celotex Co., Chicago.**  
Acousti-Celotex. 16 pp., 8½ x 11 in. Illustrated brochure on a valuable material for facing walls and ceilings.  
Specifications and Details for application and decoration of Acousti-Celotex, 11 pp., 8½ x 11 in.  
**John-Manville, Inc.,** Madison Ave. & 41st St., New York, N. Y.  
Architectural Acoustics. Booklet. 6 x 9 in. 24 pp. Illustrated. Treatise on the correction of architectural acoustics in Churches, schools, hospitals, office buildings and other places.  
**U. S. Gypsum Co.,** 205 W. Monroe St., Chicago, Ill.  
A Scientific Solution of an Old Architectural Problem. Folder 6 pp., 8½ x 11 in. Describes Sabinite Acoustical Plaster.

## ASH HOISTS—ELECTRIC AND HAND POWER

- Gillis & Geoghegan,** 544 West Broadway, New York, N. Y.  
General Catalog. 8½ x 11 in. 20 pp. Fully illustrated. Contains specifications in two forms (with manufacturers' name and without). Detail ¼ in. scale for each telescopic model and special material-handling section.  
The Man-Saving Load Lifter. 5½ x 8½ in. 8 pp. Illustrated. Describes G&G Telescopic and Non-Telescopic Hoists for handling material in factories.

## BASEMENT WINDOWS

- Truscon Steel Co.,** Youngstown, Ohio  
Truscon Copper-Steel Basement Windows. Booklet, 8 pp., 8½ x 11 in. Illustrated with installation details. Specifications and construction details.

## BRICK

- Acme Brick Company,** Ft. Worth, Texas.  
Series No. 1  
Architectural designs rendered in Acme Brick. Booklet 11 x 8½ in. Illustrated. A series of 48 photogravures showing architectural designs rendered in Acme brick. Illustrations show the various types of buildings erected in the Southwest in recent years. Sent free to architects applying on their office stationery.  
**American Face Brick Association,** 1751 Peoples Life Bldg., Chicago, Ill.  
Architectural Details in Brickwork. Series One, Two and Three. Each series consists of an indexed folder case to fit standard vertical letter file, containing between 30 and 40 half-tones in brown ink on fine quality paper. These collections are inspiring aids to all designers. Sent free to architects who apply on their office stationery; to others, 50 cents for each series. Size 8½ x 11 in.  
English Precedent for Modern Brickwork. A book of plates and measured drawings of Tudor and Gothic brickwork with a few recent variations of modern architects in the spirit of the old work. Price \$2.00. 100 pp. Illustrated. 8½ x 11 in.  
Brickwork in Italy. 298 pages size 7½ x 10½ in., an attractive and useful volume on the history and use of brick in Italy from ancient to modern times, profusely illustrated with 69 line drawings, 300 half-tones, and 20 colored plates with a map of modern and XII century Italy. Bound in linen will be sent postpaid upon receipt of \$6.00. Half Morocco, seven dollars.

## BUILDING FINANCE

- S. W. Straus & Co.,** 565 Fifth Ave., New York, N. Y.  
The Straus Plan of finance is an attractively prepared booklet of 30 pages 6 x 9 in. in size, which summarizes the plan under which S. W. Straus & Co. finance modern office building, apartment house, residential hotel and other types of construction. It is illustrated with sketches of buildings throughout the United States which secure bond issues purchased by S. W. Straus & Co.

## BUILDING, STEEL PRODUCTS FOR

- Massillon Steel Joist Co.,** Canton, Ohio.  
Massillon Bar Joists. Pamphlet. 8½ x 11 in. Illustrated. Information descriptive of Massillon Bar Joist Permanent Fireproof Floor and Roof Construction, with cuts of typical installations. See classification "Steel Joists" for other publications intended for the architect designing this construction.  
Massillon Metal Lath. Pamphlet. 8½ x 11 in. Illustrated. Includes tabulations and illustrations covering recommendations for the use of various weights and kinds of metal lath and lath accessories.  
Massillon Roof Trusses. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Shows typical installations with 12 sizes of Standardized Curved Chord Steel Roof Trusses for spans of from 40 to 60 feet, together with details, dimensions, and safe loading tables.  
Massillon Bank Vault Reinforcing. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Gives details of typical installations for a line of standardized steel vault reinforcing frames.  
**National Steel Fabric Co.,** Pittsburgh, Pa.  
Reinforced Concrete Floors. Booklet, 8½ x 11 in. Illustrated. Detailed information on concrete floor slab reinforcement, with valuable engineering data and tables.  
**Truscon Steel Company,** Youngstown, Ohio.  
Truscon Data Book. Catalog. 3½ x 6 in. 128 pp. Illustrated. Contains complete information with illustrations on Truscon reinforcing steel, steel windows, metal lath, standard buildings, concrete inserts, steel joists, pressed steel stamping and chemical products.

## CEMENT

- Carney Company, The,** Mankato, Minn.  
What Twelve Men Said About Carney. Booklet, 8½ x 11 ins., Illustrated. Opinions of well known architects and builders of Carney Cement used for mortar.  
**Louisville Cement Co.,** 315 Guthrie St., Louisville, Ky.  
BRIXMENT for Perfect Mortar. Self-filing handbook 8½ x 11 inches. 16 pp. Illustrated. Contains complete technical description of BRIXMENT for brick, tile and stone masonry, specifications, data and tests.  
**Sandusky Cement Co.,** Dept. F., Cleveland, Ohio.  
Medusa White Portland Cement. Booklet, 8½ x 11 ins., 32 pp., Illustrated. Complete data on cement, plain and waterproofed.

## CONCRETE BUILDING MATERIALS

- Concrete Surface Corporation,** 342 Madison Ave., New York.  
Binding Surfaces on Concrete. Booklet, 12 pp., 8 x 11 in., illustrated. Deals with an important detail of building.

## CONCRETE COLORINGS

- A. C. Horn Company,** Long Island City, N. Y.  
Ceramic Catalog. Booklet. 8½ x 11 in. 26 pp. A magnificent brochure, illustrated in color, describing a valuable line of specialties for use with concrete floors—colorings, hardeners, waterproofing, etc.

## CONDUIT

- Johns-Manville, Inc.,** New York.  
Orangeburg Fibre Conduit. Booklet. 8½ x 11 in. 8 pp. Details regarding a valuable form of conduit.  
Orangeburg System of Under Floor Duct. Booklet. 8½ x 11 in. 32 pp.  
**National Metal Molding Co.,** 1113 Fulton Building, Pittsburgh, Pa.  
Bulletin of all National Metal Molding Products. In correspondence folder. 9½ x 11½ in.  
Sheraduct. Circular. 5 x 8 in. Illustrated.  
Flaxsteel. Circular. 5 x 8 in. Illustrated.

## CONSTRUCTION, FIREPROOF

- Massillon Steel Joist Co.,** Canton, Ohio.  
Massillon Bar Joists. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Contains general information, with illustrations, regarding obtaining Permanent Fireproof Floor and Roof Construction by using Massillon Bar Joists. See classification "Steel Joists" for other publications intended for architects designing this construction.  
Massillon Metal Lath. Pamphlet. 8½ x 11 in. 8 pp. Illustrated. Contains cuts, illustrations and recommendations for the use of various weights and kinds of metal lath for fireproofing columns, beams and steel joists.  
**National Fire Proofing Co.,** 250 Federal St., Pittsburgh, Pa.  
Standard Fire Proofing Bulletin 171. 8½ x 11 in. 32 pp. Illustrated. A treatise on fireproof floor construction.  
**National Steel Fabric Co.,** Pittsburgh, Pa.  
Fireproofing Structural Steel. Booklet 8½ x 11 in. Illustrated. Information on concrete fireproofing and reinforcement of beams, girders, and columns. Includes details and tables.  
**Northwestern Expanded Metal Co.,** 1274 Old Colony Building, Chicago, Ill.  
Northwestern Expanded Metal Products. Booklet. 8½ x 10½ in. 16 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated, Plaster-Sava and Longspan lath channels, etc.

## DAMPPOOFING

- Philip Carey Co.,** Lockland, Cincinnati, Ohio.  
Architects' Specifications for Carey Built-Up Roofing. Booklet. 8 x 10½ in. 24 pp. Illustrated. Complete data to aid in specifying the different types of built-up roofing to suit the kind of roof construction to be covered.  
Carey Built-Up Roofing for Modern School Buildings. Booklet. 8 x 10½ in. 32 pp. Illustrated. A study of school buildings of a number of different kinds and the roofing materials adapted for each.  
**A. C. Horn Company,** Long Island City, N. Y.  
Waterproofing. 9½ x 11½ in. Folder. Contains folders giving data on excellent waterproofing and dampproofing materials.  
**Sonneborn Sons, Inc.,** L., 116 Fifth Ave., New York.  
Specification Sheet, 8½ x 11 in. Descriptions and specifications of compounds for dampproofing interior and exterior surfaces.  
**Toch Brothers,** 110 East 42nd Street, New York City.  
Specifications for Dampproofing, Waterproofing, Enameling and Technical Paint. Complete and authoritative directions for use of an important line of materials.

## DOORS AND TRIM, METAL

- The American Brass Company,** Waterbury, Conn.  
Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8½ x 11 in., illustrating and describing more than 2,000 standard bronze shapes of cornices, jamb casings, mouldings, etc.  
**Art Metal Construction Co.,** Jamestown, N. Y.  
Hollow Metal Doors and Trim. Portfolio containing several brochures and a catalog of 159 pages and plates 8½ x 11¼ in.



# SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 135

## DOORS AND TRIM, METAL—Continued

- The Compound & Pyrono Door Company, St. Joseph, Mich.**  
Pyrono Handbook for Architects and Contractors. 8½ x 11 in. 16 pp. Contains full information regarding Pyrono Fireproof Veneered Doors and Trim, with complete details and specifications.  
Pyrono details in sheet form for tracing.
- Richards-Wilcox Mfg. Co., Aurora, Ill.**  
Fire Doors and Hardware, Booklet. 8½ x 11 in. 64 pp. Illustrated. Describes entire line of tin-clad and corrugated fire doors, complete with automatic closers, track hangers and all the latest equipment—all approved and labeled by Underwriters' Laboratories.

## DUMBWAITERS

- Sedgwick Machine Works, 151 West 15th St., New York.**  
Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. 4¼ x 8¼ in. 60 pp. Illustrated.

## ELECTRICAL EQUIPMENT

- Frank Adam Electric Company, St. Louis, Mo.**  
Catalog No. 35—1925. Panelboards—Steel Cabinets. 7¾ x 10½ in. 64 pp. Illustrates and describes sectionally built panelboards, an important line of steel cabinets, and the fittings which go with them.
- Hart & Hegeman Mfg. Co., The, 342 Capitol Ave., Hartford, Conn.**  
The Line of Least Resistance. Catalog R. 10½ x 7½ in. 152 pp. Illustrated. Complete display of switches, sockets, accessories and wiring devices with brief description.  
A new H & H Switch. Leaflet. 3½ x 6 in. 4 pp. Illustrated. Illustrates a new H & H composition base push switch of De Luxe quality.  
Tumbler Switches. Booklet. 3½ x 6 in. 6 pp. Illustrated. Shows complete line of H & H Tumbler Switches.  
Architects' Handbook of H & H Wiring Devices. Booklet 8½ x 11 in. 16 pp. "Written by an Architect for Architects."  
H. & H. Electrical Wiring Devices, Catalog S. 8½ x 10 in., 123 pp. Lists and illustrates details of equipment.
- Kohler Co., Kohler, Wis.**  
Principle and Proof. Booklet. 48 pp. Illustrated. Describes a standard voltage automatic electric power and light plant for isolated homes, for emergency auxiliary or permanent lighting in stores, theaters, churches and schools.
- Pick & Company, Albert, 208 West Randolph St., Chicago, Ill.**  
School Cafeterias. Booklet. 9 x 6 in. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.  
Kitchen Equipment. Booklet. 9 x 6 in. Illustrated. Photographs and descriptions of Hotel, Club and Hospital kitchens with treatise on plans and equipment of efficient kitchens.  
Electric Kitchen Equipment. Booklet. 8½ x 11½ in. Illustrated. Photographs and descriptions of PIX "Master-Made" ranges, ovens, etc., for Hotels and Restaurants.
- Western Electric Co., 195 Broadway, New York, N. Y.**  
Western Electric Inter-Phones for Apartment Houses. Booklet. 5¼ x 6¾ in. 16 pp. Illustrated. Illustrates and describes use of Inter-Phones in Apartment Houses.  
Installing and Maintaining Western Electric Inter-Phones. In addition to giving general information on layout of system, details are supplied on individual Inter-Phone Systems, listing battery and wiring requirements.

## ELEVATORS

- Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.**  
Otis Push Button Controlled Elevators. Descriptive leaflets. 8½ x 11 in. Illustrated. Full details of machines, motors and controllers for these types.  
Otis Geared and Gearless Traction Elevators of All Types. Descriptive leaflets. 8½ x 11 in. Illustrated. Full details of machines, motors and controllers for these types.  
Escalators. Booklet. 8½ x 11 in. 22 pp. Illustrated. Describes use of escalators in subways, department stores, theaters and industrial buildings. Also includes elevators and dock elevators.
- Richards-Wilcox Mfg. Co., Aurora, Ill.**  
Elevators. Booklet. 8½ x 11 in. 24 pp. Illustrated. Describes complete line of "Ideal" elevator door hardware and checking devices, also automatic safety devices.
- Sedgwick Machine Works, 151 West 15th St., New York, N. Y.**  
Catalog and descriptive pamphlets, 4¼ x 8¼ in. 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automobile elevators, etc.

## ENAMELING

- Toch Brothers, 110 East 42nd Street, New York City.**  
Specifications for Dampproofing, Waterproofing, Enameling and Technical Painting. Complete and authoritative directions for use of an important line of materials.

## FIRE DOORS—See Doors, Windows and Trim, Metal

## FIREPROOFING—See also Construction, Fireproof

- Concrete Engineering Co., Omaha, Nebr.**  
"Handbook of Fireproof Construction." Booklet, 53 pp., 8½ x 11 in. Valuable work on methods of fireproofing.
- The General Fireproofing Company, Youngstown, Ohio.**  
Fireproofing Handbook, 8½ x 11 in. 64 pp. Illustrated. Gives methods of construction, specifications, data on Herringbone metal lath, steel tile, Trussit solid partitions, steel lumber, self-centering formless concrete construction.

## FLOOR HARDENERS (CHEMICAL)

- Master Builders Company, Cleveland, Ohio.**  
Concrete Floor Treatments; Hardening, Dustproofing, Waterproofing. Sheets in loose index file, 9 x 12 in. Illustrated work on concrete hardening, coatings, accelerators and freeze proofers.
- Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.**  
Lapidolith, the liquid chemical hardener. Complete sets of specifications for every building type in which concrete floors are used, with descriptions and results of tests.

## FLOORS—STRUCTURAL

- Truscon Steel Co., Youngstown, Ohio**  
Truscon Locktile. Booklet, 8½ x 11 in., 8 pp. Illustrations of material and showing methods of application.  
Truscon Floretyle Construction. Booklet, 8½ x 11 in., 16 pp. Illustrations of actual jobs under construction. Lists of properties and information on proper construction. Proper method of handling and tables of safe loads.

## FLOORING

- Armstrong Cork & Insulation Co., 132 24th St., Pittsburgh, Pa.**  
Linotile Floors for Public and Semi-Public Buildings, 7¼ x 10¼ in. 36 pp.  
Linotile Floors for Residences. 7¼ x 10¼ in. 32 pp.  
Armstrong's Cork Tile. Revised Edition. Booklet. 24 pp. 5 x 7 in. Illustrated in color. Contains complete specifications.
- Armstrong Cork & Insulation Co., Pittsburgh, Pa.**  
Armstrong's Cork Tile Floors. Booklet, 7¼ x 10¼ in. 30 pp. An illustrated work on cork flooring.
- Armstrong Cork Co. (Linoleum Division), Lancaster, Pa.**  
Armstrong's Linoleum Floors. Catalog. 8½ x 11 in. 36 pp. Color plates. A technical treatise on linoleum, including table of gauges and weights and specifications for installing linoleum floors.  
Decorative Linoleum Floors. Portfolio of Color Plates. 11¼ x 15 in. 16 pp. Color plates.  
Armstrong's Linoleum Pattern Book, 1925. Catalog. 3½ x 6 in. 200 pp. Color Plates. Reproduction in color of all patterns of linoleum and cork carpet in the Armstrong line.  
Quality Sample Books. Two books, 3½ x 5¼ in. Showing all gauges and thicknesses in the Armstrong line of linoleums.  
Detailed Directions for Laying and Caring for Linoleum. Handbook, 5 x 7 in. 48 pp. Instructions for linoleum layers and others interested in learning most satisfactory methods of laying and taking care of linoleum.  
Business Floors. Booklet. 6 x 9 in. 48 pp. Illustrated in color. Explains use of linoleum for offices, stores, etc., with reproductions in color of suitable patterns, also specifications and instructions for laying.
- Barber Asphalt Co., Philadelphia.**  
Specifications for Applying Genasco Asphalt Mastic. Booklet. 8 x 10½ in. Directions for using Asphalt Mastic for flooring.
- Blabon Company, Geo. W., Nicetown, Philadelphia, Pa.**  
Planning the Color Schemes for Your Home. Brochure illustrated in color; 36 pp., 7¼ x 10½ in. Gives excellent suggestions for use of color in flooring for houses and apartments.  
Handy Quality Sample Folder of Linoleums. Gives actual samples of "Battleship Linoleum," cork carpet, "Feltex," etc.  
Blabon's Linoleum. Booklet illustrated in color; 128 pp., 3½ x 8½ in. Gives patterns of a large number of linoleums.  
Blabon's Plain Linoleum and Cork Carpet. Gives quality samples, 3 x 6 in. of various types of floor coverings.
- Bonded Floors Company, Inc., 1421 Chestnut St., Philadelphia, Pa.**  
A series of booklets, with full color inserts showing standard colors and designs. Each booklet describes a resilient floor material as follows:  
Battleship Linoleum. Explains the advantages and uses of this durable, economical material.  
Marble-ized (Cork Composition) Tile. Complete information on cork-composition marble-ized tile and the many artistic effects obtainable with it.  
Treadlite (Cork Composition) Tile. Shows a variety of colors and patterns of this adaptable cork composition flooring.  
Natural Cork Tile. Description and color plates of this super-quiet, resilient floor.  
Practical working specifications for installing battleship linoleum, cork composition tile and cork tile.
- Carter Bloxonend Flooring Co., Keith & Perry Bldg., Kansas City, Mo.**  
Bloxonend Flooring. Booklet 3¼ x 6¼ in. 20 pp. Illustrated. Describes uses and adaptability of Bloxonend Flooring to concrete, wood or steel construction, and advantages over loose wood blocks.  
File Folder, 9¼ x 8½ in. For use in connection with A. I. A. system of filing. Contains detailed information on Bloxonend Flooring in condensed, loose-leaf form for specification writer and drafting room. Literature embodied in folder includes standard Specification Sheet covering the use of Bloxonend in general industrial service and Supplementary Specification Sheet No. 1, which gives detailed description and explanation of an approved method for installing Bloxonend in gymnasiums, armories, drill rooms and similar locations where maximum resiliency is required.
- Norton Company, Worcester, Mass.**  
Filing Folder. 8½ x 11¼ in. 27 pp. Illustrated with drawings. Specification data for architects.
- Ritter Lumber Co., W. M., Columbus, Ohio.**  
Ritter Oak Flooring, brochure 5 x 7 in. 31 pp. Illustrated. Excellent data on floors of different kinds and of various woods. Beauty Begins in the Forest.  
Large illustrated folder on modern flooring.
- U. S. Gypsum Co., Chicago.**  
Pyrobar Floor Tile. Folder. 8½ x 11 in. Illustrated. Data on building floors of hollow tile, and tables on floor loading.
- U. S. Rubber Co., 1790 Broadway, New York.**  
Period Adaptations for Modern Floors. Brochure. 8 x 11 in. 60 pp. Richly illustrated. A valuable work on the use of rubber tile for flooring in interiors of different historic styles.

## FOLDING PARTITIONS

- Irving Hamlin, Evanston, Ill.**  
The Evanston Sound-Proof Door. Brochure, 8½ x 11 in. 8 pp. Full data on Hamlinized Folding Partitions and Evanston Sound-Proof Doors.
- Wilson Corporation, J. G., 11 East 38th Street, New York, N. Y.**  
Sectionfold and Rolling Partitions and Hygienic School Wardrobes. Catalog No. 37. Booklet 8½ x 11 in. 40 pp. Illustrated. Describes the uses of rolling and sectional partitions, particularly in schools and churches. Also the installation of Wilson school wardrobes.





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## SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 136

### FURNITURE

- American Seating Co.**, 14 E. Jackson Blvd., Chicago, Ill.  
**Ars Ecclesiastica** Booklet. 6 x 9 in. 48 pp. Illustrations of church fittings in carved wood.  
**Theater Chairs**. Booklet. 6 x 9 in. 48 pp. Illustrations of theater chairs.  
**Kensington Mfg. Company**, Showrooms, 41 West 45th St., New York. Illustrated booklet indicative of the scope, character and decorative quality of Kensington Furniture, with plan of co-operation with architects, sent on request.  
 Photographs and full description of hand-made furniture in all the period styles, furnished in response to a specific inquiry.  
**White Door Bed Company, The**, 130 North Wells Street, Chicago, Ill.  
 Booklet. 8½ x 11 in. 20 pp. Illustrated. Describes and illustrates the use of "White" Door Bed and other space-saving devices.

### GARDEN ACCESSORIES

- Davey Tree Expert Company, The**, 907 Elm St., Kent, Ohio.  
 When Your Trees Need The Tree Surgeon. Booklet. 16 pp. 8 x 9½ in. Illustrated. Lists and explains a number of serious tree troubles of common occurrence; contrasts the scientific methods used by properly trained and conscientious men to remedy these troubles with the work of unscrupulous or untrained men.

### GLASS CONSTRUCTION

- Mississippi Wire Glass**, 220 Fifth Avenue, New York.  
**Mississippi Wire Glass**. Catalog. 3¾ x 8½ in. 32 pp. Illustrated. Covers the complete line.

### GRATINGS

- The Tri-lok Company**, 5515 Butler Street, Pittsburgh, Pa.  
 What a Difference Three Locks Make. Folder. 4 pp., 8½ x 11 in. Deals with a means of holding slender members of metal in accurate alignment.

### GRILLES

- The Tri-lok Company**, 5515 Butler Street, Pittsburgh, Pa.  
 What a Difference Three Locks Make. Folder. 4 pp., 8½ x 11 in. Deals with a means of holding slender members of metal in accurate alignment.  
**Wickwire Spencer Steel Co., Inc.**, 41 East 42nd St., New York.  
 Clinton Grilles. Booklet. 9 x 11 in. 12 pp. A brochure on metal grilles, particularly for use over heating radiators.

### HARDWARE

- P. & F. Corbin**, New Britain, Conn.  
 Early English and Colonial Hardware. Brochure, 8½ x 11 in. An important illustrated work on this type of hardware.  
**Cutler Mail Chute Company**, Rochester, N. Y.  
 Cutler Mail Chute Model F. Booklet. 4 x 9½ in. 8 pp. Illustrated.  
**Earle Hardware Mfg. Co.**, 2369 E. 51st St., Los Angeles.  
 Catalog No. A-3. 155 pp., 6½ x 10½ in. General catalog of fine hardware for different uses.  
**McKinney Mfg. Co.**, Pittsburgh, Pa.  
 McKinney Complete Garage Hardware Sets. Catalog. 6¼ x 10 in. 20 pp. Illustrated. Describes full line of complete garage hardware sets for all kinds of entrances, with views of typical entrances and sketches.  
 McKinney Hinges and Butts. General Catalog. 6¼ x 10 in. Illustrates and describes complete line of McKinney wrought builders' hardware products, including hinges, butts, door hangers and track, latches, garage hardware and specialties.  
**Richards-Wilcox Mfg. Co.**, Aurora, Ill.  
 Distinctive Garage Door Hardware. Booklet. 8½ x 11 in. 65 pp. Illustrated. Complete information accompanied by data and illustrations on different kinds of garage door hardware.  
**Sargent & Company**, New Haven, Conn.  
 Details to Which Standard Hardware Can Be Applied. Booklet. 6 pp. 9 x 12 in. Illustrated. Treats with diagrams, portions of doors and windows to which hardware can be applied.  
 Sargent Locks and Hardware. Bound volume, 534 pp., 9 x 12 in., illustrated. Complete catalog of Sargent line of hardware.

### HEATING EQUIPMENT

- American Blower Co.**, 6004 Russell Street, Detroit.  
 Heating and Ventilating Utilities. A binder containing a large number of valuable publications, each 8½ x 11 in., on these important subjects.  
**American Radiator Company, The**, 40 West 40th St., N. Y. C.  
 Ideal Type "A" Heat Machine. Catalog 7¼ x 10½ in. 32 pp. Illustrated in 4 colors. A brochure of high-efficiency heating apparatus for residences and commercial buildings.  
 Ideal Water Tube Boilers. Catalog 7¼ x 10½ in. 32 pp. Illustrated in 4 colors. Data on a complete line of Heating Boilers of the Water Tube type.  
 Ideal Smokeless Boilers. Catalog 7¼ x 10½ in. 32 pp. Illustrated in 4 colors. Fully explains a boiler free from the objection of causing smoke.  
 Ideal Boilers for Oil Burning. Catalog 5½ x 8½ in. 36 pp. Illustrated in 4 colors. Describing a line of Heating Boilers especially adapted to use with Oil Burners.  
 Corto—The Radiator Classic. Brochure 5½ x 8½ in. 16 pp. Illustrated. A brochure on a space-saving radiator of beauty and high efficiency.  
 Ideal Arcola Radiator Warmth. Brochure 6¼ x 9¼. Illustrated. Describes a central all-on-one-floor heating plant with radiators for small residences, stores, and offices.  
**James B. Clow & Sons**, 534 S. Franklin St., Chicago, Ill.  
 Gasteam. Catalog. 6 x 9 in. 16 pp. Illustrated. New radiator using gas for fuel.  
**C. A. Dunham Company**, 450 East Ohio Street, Chicago, Ill.  
 Dunham Radiator Trap. Bulletin 101. 8 x 11 in. 12 pp. Illustrated. Explains working of this detail of heating apparatus.  
 Dunham Packless Radiator Valves. Bulletin 104. 8 x 11 in. 8 pp. Illustrated. A valuable brochure on valves.  
 Dunham Return Heating System. Bulletin 109. 8 x 11 in. Illustrated. Covers the use of heating apparatus of this kind.

### HEATING EQUIPMENT—Continued

- Dunham Vacuum Heating System**. Bulletin 110. 8 x 11 in. 12 pp. Illustrated.  
**Excelsa Specialty Works**, 119 Clinton St., Buffalo, N. Y.  
 Excelsa Water Heater. Booklet. 12 pp. 3 x 6 in. Illustrated. Describing the new Excelsa method of generating domestic hot water in connection with heating boilers. (Firepot Coil eliminated.)  
**The Fulton Company**, Knoxville, Tenn.  
 Sylphon, Temperature Regulators. Bulletin T-103. 8½ x 11 in. 16 pp. Complete data on Sylphon temperature regulators for air and liquids. Catalog 100, complete line Sylphon Heating Specialties.  
 Damper Regulators. Air and Vent Valves. Catalog No. 100. 3¼ x 6¼ in. Sylphon Damper Regulators for steam, hot water and vapor systems. Sylphon Air and Vent Valves.  
**Illinois Engineering Co.**, Racine Ave., at 21st St., Chicago, Ill.  
 Vapor Heat Bulletin 21. 8½ x 11 in. 32 pp. Illustrated. Contains new and original data on Vapor Heating. Rules for computing radiation, pipe sizes, radiator tappings. Steam table showing temperature of steam and vapor at various pressures, also description of Illinois Vapor Specialties.  
**International Heater Company, Utica, N. Y.**  
 International Economy Blue Front Warm Air Furnace. Brochure, 23 pp., 7½ x 10½ in. A valuable publication dealing with an important type of heating.  
 International Carton Self Cleaning Warm Air Furnaces. Booklet, 31 pp., 7½ x 10½ in. Illustrated. Complete data on warm air heating.  
 International Economy Boilers. Booklet, 36 pp., 7½ x 19½ in. Deals with the vital matter of boilers.  
 International Economy Smokeless Boilers. Brochure, 40 pp., 7½ x 10½ in. Illustrated. Discusses an important type of smokeless boiler.  
 International Hot Water Supply Boilers. Booklet, 8 pp., 7½ x 10½ in. Data regarding boilers for supplying hot water.  
**Johnson Service Company**, 149 Michigan St., Milwaukee, Wis.  
 Regulation of Temperature and Humidity. Booklet. 11¼ x 8½ in. 64 pp. Illustrated. Describes Johnson system of pneumatic automatic regulation of temperature and humidity, and illustrates thermostats, valves, air compressors, dampers and other parts.  
 Johnson Electric Thermostats, Valves and Controllers. Booklet. 6½ x 3½ in. 24 pp. Illustrated. Excellent plates showing electric thermostats and controllers.  
**Kelsey Heating Company**, James St., Syracuse, N. Y.  
 Booklet No. 5, 4 x 9 in. 32 pp. Illustrated. A dealers' booklet showing the Kelsey Warm Air Generator Method of warming and distributing air. Gives dimensions, heating capacities, weights, kind of coal recommended and shows the mechanical and gravity systems of heating homes, churches and schools.  
 Monroe Pipeless Booklet, 4½ x 8 in. 20 pp. Illustrated.  
 Monroe Tubular Heater. Booklet, 4½ x 8 in. 20 pp. Illustrated.  
 General Booklet giving capacities, dimensions, weights, etc. Syracuse Pipeless Booklet. 4½ x 8 in. 12 pp. Illustrated. General Booklet giving sizes and capacities.  
**Kewanee Boiler Co.**, Kewanee, Ill.  
 Kewanee on the Job. Catalog. 8½ x 11 in. 80 pp. Illustrated. Showing installations of Kewanee boilers, water heaters, radiators, etc.  
 Catalog No. 78, 6 x 9 in. Illustrated. Describes Kewanee Fire-box Boilers with specifications and setting plans.  
 Catalog No. 79. 6 x 9 in. Illustrated. Describes Kewanee power boilers and smokeless tubular boilers with specifications.  
**Mueller Co.**, Decatur, Ill.  
 Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in-measurements for built-in bath equipment.  
**Nash Engineering Company**, South Norwalk, Conn.  
 No. 37. Devoted to Jennings Hytor Return Line Vacuum Heating Pumps, electrically driven, and supplied in standard sizes up to 300,000 square feet equivalent direct radiation.  
 No. 16. Dealing with Jennings Hytor Air Line Heating Pumps.  
 No. 17. Describing Jennings Hytor Condensation Pumps, sizes up to 70,000 square feet equivalent direct radiation.  
 No. 25. Illustrating Jennings Return Line Vacuum Heating Pumps. Size M, for equivalent direct radiation up to 5,000 square feet.  
**National Radiator Company**, Johnstown, Pa.  
 Aero Radiators; Beauty and Worth. Catalog 34. Booklet 6 x 9 in., 20 pp., describing and illustrating radiators and accessories.  
**Peerless Unit Ventilation Company, Inc.**, Long Island City, N. Y.  
 Peerless Industrial Heating Unit. Folder 6 x 9 in. Deals specifically with heating industrial structures.  
 Peer Vent Heating and Ventilating Unit. Brochure, 6 x 6½ in. Illustrated. Valuable data on apparatus for ventilating and heating buildings of different types.  
**Trane Co., The**, La Crosse, Wis.  
 Bulletin 14. 16 pp. 8½ x 10½ in. Cover the complete line of Trane Heating Specialties, including Trane Bellows Traps, and Trane Bellows Packless Valves.  
 Bulletin 20. 24 pp. 8½ x 10½ in. Explains in detail the operation and construction of Trane Condensation. Vacuum, Booster, Circulating, and similar pumps.  
**Utica Heater Company**, Utica, N. Y.  
 Imperial Round and Square Boilers and Supplies. Catalog. 3¼ x 6¼ in. Gives complete data on small heaters.  
 Special Folders. 8½ x 11 in. "Warmth and Comfort," describing the scientifically correct NEW IDEA pipeless furnaces. "SUPERIOR Warm Air Pipe Furnaces," a standard line of heating equipment for over forty years. "SUPER-SMOKELESS Pipe and Pipeless Furnaces," a new and remarkably efficient warm air heater, burning cheap soft coal without smoke—utilizing the principle of the Bunsen Burner.



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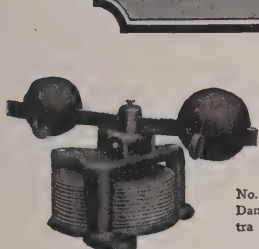
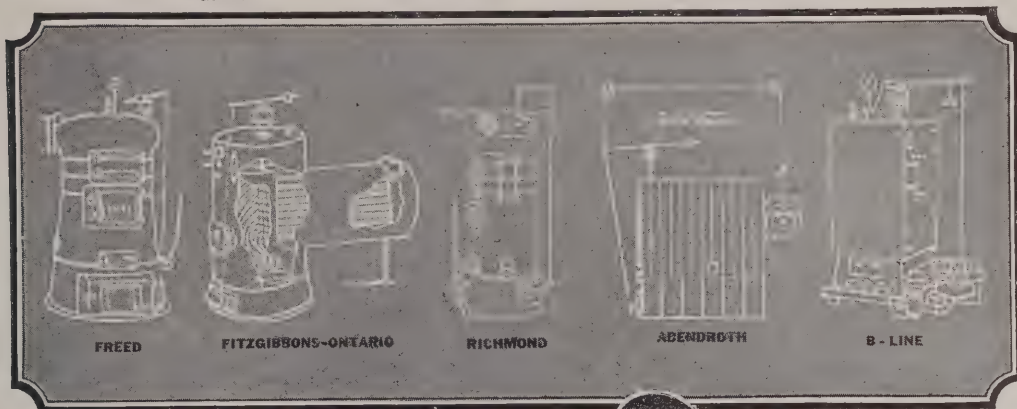
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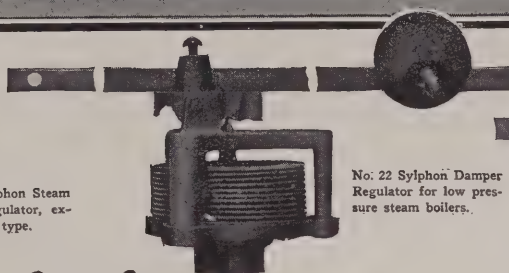
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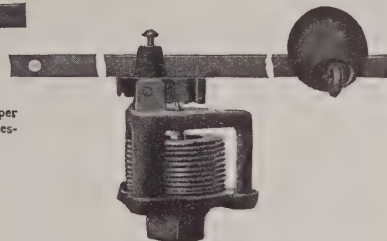
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# SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 138

## HEATING EQUIPMENT—Continued

Utica Imperial SUPER-SMOKELESS Boiler. Catalog.  $8\frac{1}{2} \times 11$  in. Consists of the following seven bulletins, either loose or bound together: (1) School Heating Bulletin. (2) Public Building Bulletin. (3) Theater Heating Bulletin. (4) Churches and Religious Institutions. (5) Residences, Apartments and Hotels. (6) Offices, Industrial Buildings and Garages. (7) Technical Bulletin describing patented Bunsen Burner design and construction of the SUPER-SMOKELESS BOILER, which burns the cheapest grades of soft coal smokelessly and operates equally well with hard coal, coke or fuel oil.

## HOSPITAL EQUIPMENT

**The Frink Co., Inc.**, 24th St. and Tenth Ave., New York City. Catalog 426.  $7 \times 10$  in., 16 pp. A booklet illustrated with photographs and drawings, showing the types of light for use in hospitals, as operating table reflectors, linolite and multilite concentrators, ward reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their particular fitness for special uses.

**The International Nickel Company**, 67 Wall St., New York, N. Y. Hospital Applications of Monel Metal. Booklet.  $8\frac{1}{2} \times 11\frac{1}{2}$  in. 16 pp. Illustrated. Gives types of equipment in which Monel Metal is used, reasons for its adoption, with sources of such equipment.

**The Kny-Scheerer Corporation of America**, 119 Seventh Ave., New York.

Hospital Equipment, 16th Edition.  $7\frac{1}{4} \times 10\frac{1}{2}$  in. 232 pp. Illustrated. Complete description of Hospital and Surgical Furniture, Hospital Appliances including Operating Tables, Cabinets, Sterilizers for Water, Dressing and Instruments, also Hydrotherapeutic Apparatus.

Surgical Sundries. Second Edition. Booklet.  $7\frac{3}{4} \times 10\frac{1}{2}$  in. 48 pp. Illustrated. A complete line of glassware, enamelware, rubber goods, restraint apparatus, instrument sterilizers, sputum cups, wheel chairs and sick room comforts.

Electro Medical. 25th Edition. Booklet.  $7\frac{1}{4} \times 10\frac{1}{2}$  in. 160 pp. Illustrated. A complete line of Albee Bone Sets. Apparatus for AC and DC Cystoscopes, Heat Magnets, Vibrators, Compressors, Electric Light Baths, High Frequency Apparatus and X-Ray Apparatus and Accessories.

## INCINERATORS

**Goder Incinerator Corporation**, 323 North Michigan Ave., Chicago, Illinois.

"Goder Incinerators" Booklet.  $8\frac{1}{2} \times 11$  in. 16 pp. Illustrated. Describes the Goder Principle of Waste Disposal, illustrates the various designs and models, shows photos of actual installations.

"Goder Chimney Fed Incinerators." Booklet 8 pp.  $8\frac{1}{2} \times 11$  in. Illustrated. Describes chimney fed types of incinerator. Shows various designs and photos of installations. Gives specifications, also showing construction plans and details.

"The Garbage Hog." Folder  $8\frac{1}{2} \times 11$  in. 4 pp. Describes their portable Incinerator, with diagrams.

**Kerner Incinerator Company**, 715 E. Water St., Milwaukee, Wis. Incinerators (Chimney-fed) Catalog No. 15 (Architect and Builders' Edition). Size  $8\frac{1}{2} \times 11$  in., 16 pp. Illustrated. Describes principle and design of Kernerator Chimney-fed Incinerators for residences, apartments, hospitals, schools, apartment hotels, clubs and other buildings. Shows all standard models and gives general information and working data.

Sanitary Elimination of Household Waste, booklet,  $4 \times 9$  in., 16 pp., Illustrated. Gives complete information on the Kernerator for residences.

Garbage and Waste Disposal for Apartment Buildings, folder,  $8\frac{1}{2} \times 11$  in., 8 pp. Illustrated. Describes principle and design of Kernerator-Chimney-fed Incinerator for apartments and gives list of buildings where it has been installed.

Sanitary Disposal of Waste in Hospitals, booklet,  $4 \times 9$  in., 12 pp. Illustrated. Shows how this necessary part of hospital service is taken care of with the Kernerator. Gives list of hospitals where installed.

## INSULATING LUMBER

**Mason Fibre Co.**, 111 West Washington St., Chicago, Ill. Booklet, 12 pp.,  $8\frac{1}{2} \times 11$  in. Illustrated. Gives complete specifications for use of insulating lumber and details of construction involving its use.

## INSULATION

**Armstrong Cork & Insulation Co.**, Pittsburgh, Pa. Corkboard Insulation. Brochure.  $6\frac{1}{4} \times 9\frac{1}{4}$  in. Illustrated. Fully discusses properties of corkboard and its uses in insulation of cold storage rooms, refrigerators, residences, apartment houses.

The Insulation of Roofs with Armstrong's Corkboard. Booklet. Illustrated.  $7\frac{1}{2} \times 10\frac{1}{2}$  in. 32 pp. Discusses means of insulating roofs of manufacturing or commercial structures.

Insulation of Roofs to Prevent Condensation. Illustrated booklet.  $7\frac{1}{2} \times 10\frac{1}{2}$  in. 36 pp. Gives full data on valuable line of roof insulation.

Filing Folder for Pipe Covering Data. Made in accordance with A. I. A. rules.

"The Cork Lined House Makes a Comfortable Home."  $5 \times 7$  in. 32 pp. Illustrated.

**Cabot, Inc., Samuel**, Boston, Mass.

Cabot's Insulating Quilt. Booklet,  $7\frac{1}{2} \times 10\frac{1}{2}$  ins., 24 pp., Illustrated. Deals with a valuable type of insulation.

**Johns-Manville, Inc.**, New York.

Johns-Manville Service to Industry. Bound Volume. 260 pp.  $8 \times 11$  in. Deals with Asbestos Roofings, Heat and Electrical Insulations, Waterproofing, and Industrial Flooring.

A Representation Installation of the Johns-Manville Underground System of Insulation. Booklet. 20 pp.,  $8\frac{1}{2} \times 11$  in.

**Philip Carey Co., The**, Cincinnati, Ohio.

Carey Asbestos and Magnesia Products. Catalog.  $6 \times 9$  in. 72 pp. Illustrated.

**Celotex Company, The**, 645 N. Michigan Ave., Chicago, Ill.

The Hidden Comfort of Costly Homes. Booklet  $8\frac{1}{2} \times 11$  in. Celotex Specifications. Booklet  $8\frac{1}{2} \times 11$  in.

## INSULATION—Continued

**Johns-Manville, Inc.**, Madison Ave. and 41st St., New York, N. Y. Johns-Manville Service to Power Users. Catalog.  $8\frac{1}{2} \times 11$  in. 150 pp. Illustrated. Contains valuable data on all forms of insulation, packages, steam traps, high temperature cements, brake locks and linings, also general technical data.

**United States Mineral Wool Co.**, 280 Madison Ave., New York. The Uses of Mineral Wool in Architecture. Booklet  $4\frac{1}{4} \times 6\frac{3}{4}$  in. 24 pp. Illustrated. Describes properties of mineral wool as insulation against heat, frost, sound. Specifications and section drawing for use as a fireproofing. Rules for estimate and cost.

## JOISTS

**Truscon Steel Co.**, Youngstown, Ohio

Truscon Steel Joists. Booklet,  $8\frac{1}{2} \times 11$  in., 16 pp. Illustrated with typical buildings and showing details of construction. Tables of sizes and safe loads.

Truscon Steel Joist Buildings. Illustrated 32-page brochure, attractively illustrated, showing types of buildings equipped with Truscon Steel Joist.

Strip Steel Joist Construction. 14-page booklet, with illustrations. Reprint of paper presented to Building Officials' Conference, Madison, Wis., 1925, by J. J. Calvin, Secretary, Strip Steel Joist Association.

## KITCHEN EQUIPMENT

**The International Nickel Company**, 67 Wall St., New York, N. Y. Hotels, Restaurants and Cafeteria Applications of Monel Metal. Booklet.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrated. Gives types of equipment in which Monel Metal is used, with service data and sources of equipment.

**Mueller Co.**, Decatur, Ill.

Catalog G,  $8 \times 11$  in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in measurements for built-in bath equipment.

**Pick & Company, Albert**, 208 W. Randolph St., Chicago, Ill.

School Cafeteria. Portfolio.  $17 \times 11$  in. 44 pp. Illustrated. An exhaustive study of the problems of school feeding, with copious illustrations and blue prints. Very valuable to the architect. School Cafeterias. Booklet.  $9 \times 6$  in. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.

Kitchen Equipment. Booklet.  $9 \times 6$  in. Illustrated. Photographs and descriptions of Hotel, Club and Hospital kitchens with treatise on plans and equipment of efficient kitchens.

Electric Kitchen Equipment. Booklet.  $8\frac{1}{2} \times 11\frac{1}{2}$  in. Illustrated. Photographs and descriptions of PIX "Master-Made" ranges, ovens, etc., for Hotels and Restaurants.

Hotel, Apartment Building, Club and Institution Installations. Portfolio.  $17 \times 11$  in. 100 pp. Shows, mostly by plates, how the Albert Pick Company equips hotels completely from top to bottom.

Equipment for Cafeterias, Lunch Rooms, Restaurants, and Dining Rooms. Portfolio.  $17 \times 11$  in. 86 pp. Illustrated. The last word in Cafeteria equipment to meet all requirements.

## LABORATORY EQUIPMENT

**Alberene Stone Co.**, 153 West 23rd Street, New York City

Booklet  $8\frac{1}{4} \times 11\frac{1}{4}$  in., 26 pp. Stone for laboratory equipment, shower partitions, stair treads, etc.

**Duriron Company**, Dayton, Ohio.

Duriron Acid, Alkali and Rust-proof Drain Pipe and Fittings. Booklet,  $8\frac{1}{2} \times 11$  ins., 20 pp. Full details regarding a valuable form of piping.

**Kewaunee Manufacturing Company**, 141 Lincoln St., Kewaunee, Wis.

Kewaunee Book of Laboratory Furniture. Catalog.  $7 \times 10$  in. 408 pp. Illustrated. Science and Vocational Laboratory Furniture for schools, colleges, technical institutes, hospitals, etc., including floor plans, illustrations of buildings and equipped laboratories, illustrations of equipment engineering data for mechanical ventilation and illustrations of special plumbing fixtures for laboratory use. A supplement is also issued for this work.

## LANTERNS

**Todhunter, Arthur**, 414 Madison Ave., New York.

Hand Wrought Lanterns. Booklet.  $5\frac{1}{4} \times 6\frac{1}{4}$  in. 20 pp. Illustrated in Black and White. With price list. Lanterns appropriate for exterior and interior use, designed from old models and meeting the requirements of modern lighting.

## LATH, METAL AND REINFORCING

**The General Fireproofing Company**, Youngstown, Ohio. Herringbone Metal Lath Handbook.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrated. Standard specifications for Cement Stucco on Herringbone.

Rigid Metal Lath and interior plastering.

**Milwaukee Corrugating Co.**, Milwaukee, Wis.

The Milcor Manual. Booklet  $8\frac{1}{2} \times 11$  in. 64 pp. Illustrated. Covers Milcor methods and materials, metal lath, corner beads, steel domes, channels, etc.

**National Steel Fabric Co.**, Pittsburgh, Pa.

National Steel Fabric. Folder,  $8\frac{1}{2} \times 11$  in. Illustrated. Complete information in condensed form on uses of various styles of National Steel Fabric Reinforcement. Illustrates and explains uses. Includes ready reference Table of Uses and Types of Steel Fabric Reinforcement.

**Northwestern Expanded Metal Co.**, 1234 Old Colony Building, Chicago, Ill.

Northwestern Expanded Metal Products. Booklet.  $8\frac{1}{2} \times 10\frac{1}{4}$  in. 16 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated. Plaster-Sava and Longspan lath channels, etc.





*Hiram Sibley Building, Rochester, N. Y. Messrs. Coolidge, Bulfinch, Shepley and Abbott, architects, Boston.  
Roof insulated with Armstrong's Corkboard to protect top floor from summer's heat and winter's cold.*

## Cork Insulation on the Roof of the Hiram Sibley Building

ARMSTRONG'S Corkboard was used to insulate the roof of the Hiram Sibley Building, Rochester, one of the handsomest business structures in central New York, for the two-fold purpose of economy and comfort.

In winter the top floor will be easily and comfortably heated, and at a substantial saving in fuel, for the insulation will prevent the tremendous waste of heat that is lost through uninsulated roofs.

In summer, the top floor will be protected from the direct heat of the sun and the offices under the roof will be as cool and comfortable as those on the floors below.

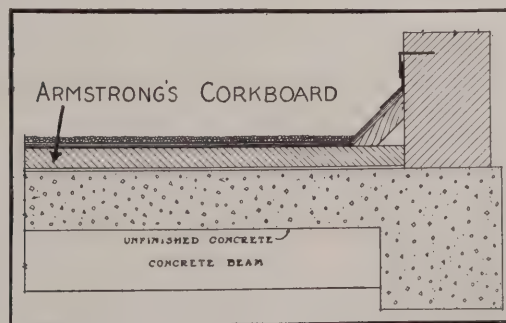
In any kind of building—office or manufacturing, public or residential—insulating the roof with Armstrong's Corkboard is the most effective means of overcoming those temperature conditions which are usually so troublesome and expensive on top floors and in single-story buildings.



Reg. U. S.  
Pat. Off.

Armstrong's Corkboard is easily applied on any type of roof, new or old. It is furnished in boards of such thickness that adequate insulation can be obtained in a *single layer*—an important advantage from the standpoint of labor cost. Armstrong's Corkboard is fire retardant. It is also non-absorbent of moisture and does not buckle or swell, but makes a firm, substantial base for the roofing.

Send for complete detailed information on the use of Armstrong's Corkboard for the insulation of walls and roofs of any type of building. There is no charge.



*Typical method of insulating a concrete-slab roof-deck.*

Armstrong Cork & Insulation Company (Division of Armstrong Cork Company), 205 Twenty-fourth St., Pittsburgh, Pa. McGill Building, Montreal, Que. Armstrong Cork Company, Ltd., Sardinia House, Kingsway, London, W. C. 2, England. Branches in the Principal Cities of the United States.

# Armstrong's Corkboard Insulation

*for the Roofs of All Kinds of Buildings*



# SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 140

## LATH, METAL AND REINFORCING—Continued

- Wickwire Spencer Steel Co., Inc.**, 41 East 42nd St., New York.  
Clinton Wire Lath. Brochure, 9 x 11 in. 51 pp. A valuable booklet on metal lathing and the proper method of using it.
- Truscon Steel Company**, Youngstown, Ohio.  
Truscon 1-A Metal Lath. 12-page booklet, 8½ x 11 in., beautifully printed, with illustrations of details of lath and method of application.
- Truscon ¾-inch Hy-Rib for Roofs, Floors and Walls. Booklet, 8½ x 11 in., illustrating Truscon ¾-in. Hy-Rib as used in industrial buildings, plates of typical construction. Progressive steps of construction. Specification and load tables.

## LAUNDRY CHUTES

- The Pfaunder Company**, 217 Cutler Building, Rochester, N. Y.  
Pfaunder Glass-Lined Steel Laundry Chutes. Booklet. 5½ x 7¾ in. 16 pp. Illustrated. A beautifully printed brochure describing in detail with architects' specifications THE PFAUNDER GLASS LINED STEEL LAUNDRY CHUTES. Contains views of installations and list of representative examples.

## LAUNDRY MACHINERY

- American Laundry Machinery Co.**, Norwood Station, Cincinnati, Ohio.  
Functions of the Hotel and Hospital Laundry. Brochure, 8 pp., 8½ x 11 ins. Valuable data regarding an important subject.

## LIGHTING EQUIPMENT

- Artistic Lighting Equipment Assn.**, Guarantee Title Bldg., Cleveland.  
1927 Handbook of the A. L. E. A. Illustrated booklet, 64 pp., 5 x 7½ in. Outlines purposes and methods of the Association.
- Business Bulletin of the A. L. E. A.** Illustrated brochure, 24 pp., 8½ x 11 in. Data of interest on lighting equipment.
- Curtis Lighting, Inc.**, Chicago, Ill.  
Catalog 393. 8 x 10 in. 34 pp. Illustrated. Describes and illustrates X-Ray reflectors for show cases and windows, and lighting fixtures for interior illumination of stores.
- Lighting Specifications**.—A. I. A. File 31 F. Looseleaf. 8½ x 11 in. Architectural detail plates on church, restaurant and home lighting. Complete details, illustrations and helpful ideas on direct and indirect illumination. Sent free to any registered architect who requests them on his own letterhead.
- Frink, Inc., I. P.**, 24th St. and 10th Ave., New York City.  
Catalog 415. 8½ x 11 in. 46 pp. Photographs and scaled cross-sections. Specialized bank lighting, screen and partition reflectors, double and single desk reflectors and Polarite Signs.
- Guth Company, The Edwin F.**, 2615 Washington Ave., St. Louis, Mo.  
Guth Lighting Equipment (Catalog No. 15). Booklet, 8½ x 11 ins. Fully illustrated, and covering lighting fixtures for buildings of all kinds.
- Forge Craft** (Catalog No. 16). Booklet, 16 pp., 8½ x 10¼ ins. Brochure dealing specifically with fixtures intended for use in buildings of the so-called "bungalow" type.
- Aglite Porcelain Enameled Illuminators**. Folder, 4 pp., 8½ x 11 in. on a new and improved type of lighting.
- Holophane Glass Company, Inc.**, 342 Madison Ave., New York City.  
Holophane Helps to Make Well Known Quality Products. Brochure. 20 pp., 8½ x 11 in. Deals with lighting industrial buildings, giving illustrations of well lighted interiors.
- Modern Retailing Success**. Booklet, 16 pp., 8½ x 11 in. Lighting of shops and show windows. Illustrations give many interesting suggestions.
- Holophane Catalog**; Commercial edition. Brochure, 40 pp., 8½ x 11 in. General catalog of details of lighting equipment.
- Modern School Lighting**. Booklet 35 pp., 6 x 9 in. Excellent work on lighting school rooms, gymnasiums, etc.
- Pittsburgh Reflector Co.**, Pittsburgh, Pa.  
Cove Lighting. Booklet. 8½ x 11 in. 24 pp. Gives complete data on lighting of this type.
- Show Window Lighting**. Booklet. 8½ x 11 in. 28 pp. A most useful work on lighting these important areas.

## MAIL CHUTES

- Cutler Mail Chute Company**, Rochester, N. Y.  
Cutler Mail Chute Model F. Booklet. 4 x 9¼ in. 8 pp. Illustrated.

## MANTELS

- Arthur Todhunter**, 414 Madison Avenue, New York, N. Y.  
Georgian Mantels. New Booklet. 24 pp. 5¼ x 6¼ in. A fully illustrated brochure on eighteenth century mantels. Folders give prices of mantels and illustrations and prices of fireplace equipment.

## MARBLE

- The Georgia Marble Company**, Tate, Ga. New York Office, 1328 Broadway.  
Why Georgia Marble is Better. Booklet. 3¼ x 6 in. Gives analysis, physical qualities, comparison of absorption with granite, opinions of authorities, etc.
- Convincing Proof**. 3¼ x 6 in. 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of Architects and Sculptors.

## METALS

- American Sheet & Tin Plate Co.**, Frick Building, Pittsburgh, Pa.  
Reference Book. Pocket Ed. 2¼ x 4½ in. 168 pp. Illustrated. Covers the complete line of Sheet and Tin Mill Products.
- Apollo and Apollo-Keystone Galvanized Sheets**. Catalog. 8½ x 11 in. 20 pp. Illustrated.
- Research on the Corrosion Resistance of Copper Steel**. Booklet. 8½ x 11 in. 24 pp. Illustrated. Technical information on results of atmospheric corrosion tests of various sheets under actual weather conditions.
- The International Nickel Company**, 67 Wall St., New York, N. Y.  
The Choice of a Metal. Booklet. 6¼ x 3 in. 166 pp. Illustrated. Monel Metal—its qualities, use and commercial forms, briefly described.

## MILL WORK—See also Wood

- Curtis Companies Service Bureau**, Clinton, Iowa.  
Architectural Interior and Exterior Woodwork. Standardized. Book. 9 x 11½ in. 240 pp. Illustrated. This is an Architects' Edition of the complete catalog of Curtis Woodwork, as designed by Trowbridge & Ackerman. Contains many color plates.
- Better Built Homes**. Vols. XV-XVIII incl. Booklet. 9 x 12 in. 40 pp. Illustrated. Designs for houses of five to eight rooms, respectively, in several authentic types, by Trowbridge & Ackerman, architects for the Curtis Companies.
- Curtis Details**. Booklet. 19¼ x 23½ in. 20 pp. Illustrated. Complete details of all items of Curtis woodwork, for the use of architects.
- Hartmann-Sanders Company**, 2155 Elston Ave., Chicago, Ill.  
Column Catalog. 7½ x 10 in. 48 pp. Illustrated. Contains prices on columns 6 to 36 in. diameter, various designs and illustrations of columns and installations.
- The Pergola Catalog**. 7½ x 10 in. 64 pp. Illustrated. Contains illustrations of pergola lattices, garden furniture in wood and cement, garden accessories.
- Roddiss Lumber and Veneer Co.**, Marshfield, Wis.  
Roddiss Doors. Brochure, 24 pp., 5¼ x 8½ in. Illustrated price list of doors for various types of buildings.
- Roddiss Doors**, Catalog G. Booklet, 183 pp., 8½ x 11 in. Completely covers the subject of doors for interior use.
- Roddiss Doors for Hospitals**. Brochure, 15 pp., 8½ x 11 in. Illustrated work on hospital doors.
- Roddiss Doors for Hotels**. Brochure, 15 pp., 8½ x 11 in. Illustrated work on doors for hotel and apartment buildings.

## MORTAR COLORS

- Clinton Metallic Paint Co.**, Clinton, N. Y.  
Clinton Mortar Colors. Folder. 8½ x 11 in. 4 pp. Illustrated in color, gives full information concerning Clinton Mortar Colors with specific instructions for using them.
- Color Card**. 6½ x 3¼ in. Illustrates in color the ten shades in which Clinton Mortar Colors are manufactured.
- Something new in Stucco**. Folder. 3½ x 6 ins. An interesting folder on the use of coloring matter for stucco-coated walls.

## PAINTS, STAINS, VARNISHES AND WOOD FINISHES

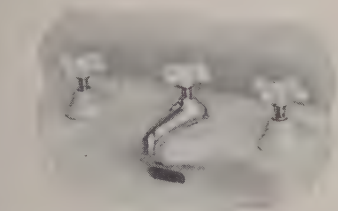
- Cabot, Inc., Samuel**, Boston, Mass.  
Cabot's Creosote Stains. Booklet. 4 x 8½ in. 16 pp. Illustrated.
- The Glidden Company**, Cleveland, Ohio.  
More Daylight. 8 x 10½ in. 20 pp. Portraying by illustrations and text the need and methods of modern mill painting.
- Glidden Specification Book**. 8 x 10½ in. 12 pp. Complete architectural specifications for Glidden Paints and Varnishes, including Ripolin. Directions for the proper finishing of wood, metal plaster, concrete, brick and other surfaces.
- Martin Varnish Co.**, 2500 Quarry St., Chicago, Ill.  
Architectural Specifications. Booklet. 8½ x 11 in. 20 pp. Illustrated. Complete guide for Architects in specifying Martin Varnish Products.
- Your Floors**. Booklet. 5 x 7 in. 20 pp. Illustrated. Explains fully how to finish all kinds of floors and woodwork with Martin's Pure Varnish.
- A. C. Horn Company**, Long Island City, N. Y.  
Keramic Catalog. Booklet. 26 pp., 8½ x 11 in. A magnificent brochure illustrated in color, describing a valuable line of specialties for use with concrete floors—colorings, hardeners, waterproofing, etc.
- National Lead Company**, 111 Broadway, New York, N. Y.  
Handy Book on Painting. Book. 5½ x 3¼ in. 100 pp. Gives directions and formulae for painting various surfaces of wood, plaster, metals, etc., both interior and exterior.
- Red Lead in Paste Form**. Booklet. 6¼ x 3½ in. 16 pp. Illustrated. Directions and formulae for painting metals.
- Came Lead**. Booklet. 8¼ x 6 in. 12 pp. Illustrated. Describes various styles of lead comes.
- Cinch Anchoring Specialties**. Booklet. 6 x 3½ in. 20 pp. Illustrated. Describes complete line of expansion bolts.
- Pratt & Lambert, Inc.**, Buffalo, N. Y.  
Specification Manual for Paint, Varnishing and Enameling. Booklet, 38 pp., 7¼ x 10½ ins. Complete specifications for painting, varnishing and enameling interior and exterior wood, plaster, and metal work.
- The Ripolin Company**, Cleveland, Ohio.  
Ripolin Specifications. Book. 8 x 10¼ in. 12 pp. Complete specifications and general instructions for the application of Ripolin, the original Holland enamel paint. Also directions for proper finishing of wood, metal, plaster, concrete, brick and other surfaces.
- Why Ripolin Has an International Reputation**. 8 x 10¼ in. 24 pp. Designed for the architect's files to illustrate the many varied uses of Ripolin Enamel Paint in all parts of the world. Profusely illustrated.
- Ruberoid Co., The** (formerly the Standard Paint Co.), 95 Madison Avenue, New York, N. Y.  
Preservative Coating. Booklet. 6 x 9 in. 15 pp. Illustrated. Presents in a concise manner the properties and uses of the Ruberoid Company's various paint preparations.
- Sherwin-Williams Company**, 601 Canal Rd., Cleveland, Ohio.  
Painting Concrete and Stucco Surfaces. Bulletin No. 1. 8½ x 11 in. 8 pp. Illustrated. A complete treatise with complete specifications on the subject of Painting of Concrete and Stucco Surfaces. Color chips of paint shown in bulletin.
- Enamel Finish for Interior and Exterior Surfaces**. Bulletin No. 2. 8½ x 11 in. 12 pp. Illustrated. Thorough discussion, including complete specifications for securing the most satisfactory enamel finish on interior and exterior walls and trim.
- Painting and Decorating of Interior Walls**. Bulletin No. 3. 8½ x 11 in. 20 pp. Illustrated. An excellent reference book on Flat Wall Finish, including texture effects, which are taking the country by storm. Every architect should have one on file.



## "TRIUMPH" BRASS TRIMMINGS

Standardized—tested the equal of fifteen years of service—of typical Clow quality—at popular prices

PREFERRED FOR EXACTING PLUMBING SINCE 1878



*Clow "Triumph" Compression Stops for lavatory—with four arm china indexed handles—fitted into combination supply and waste fixture.*

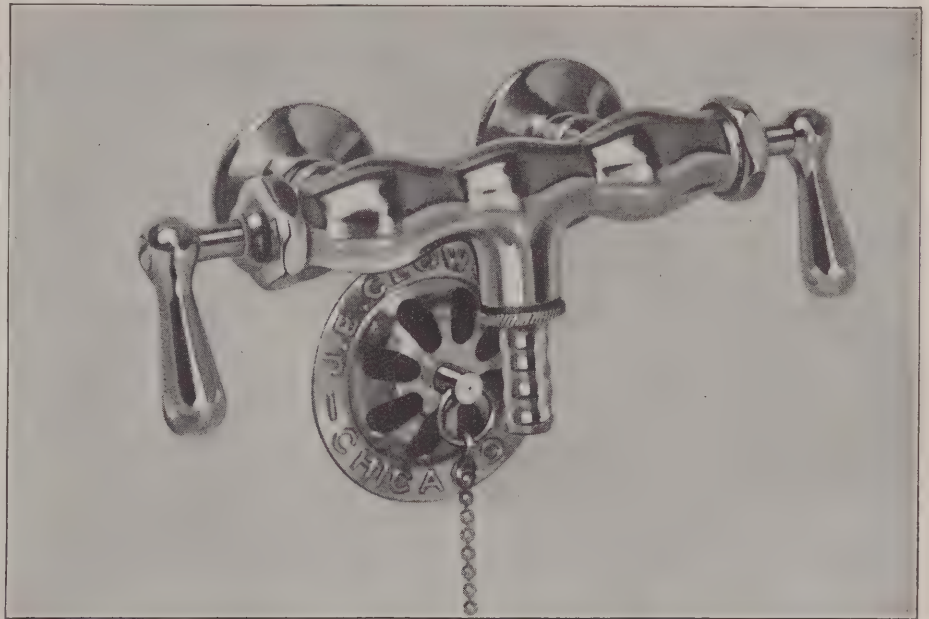


*Clow "Triumph" Compression Lavatory Faucets with four-arm solid china indexed handles.*



*Clow "Triumph" Compression Faucet with swinging spout, china-tipped index handles and china soap dish.*

Some of the fittings that complete the "Triumph" Line are shown above. Have the Clow Man in your territory show them to you.



## Winning 200,000 Battles with Water and Wear

An unseen battle is fought every time you turn on a faucet—a battle with water and wear.

In too many of these battles faucets have been defeated. Valves and seats wear away, and water pushes through. The result is a constant dripping in sinks, lavatories, and bath tubs.

But water and wear have had their day. Clow "Triumph" Brass Trimmings have won 200,000 faucet opening battles.

Under city water pressure, ten Clow "Triumph" faucets were opened and closed more than 200,000 times. This is the equal of fifteen years of service.

After the test, wear on the working parts

was measured. It was so slight that the faucets looked good enough for another "15 years" test. And not one of them showed any sign of dripping or leaking.

This test assures plumbers and architects that when they install Clow "Triumph" Brass Trimmings there will be no leaking or dripping, even after years of service.

Clow "Triumph" Brass Trimmings are standardized—parts are readily interchangeable. If replacements are desired, they can be made easily, quickly and cheaply.

And the Clow "Triumph" Line of Brass Compression Trimmings sells at popular prices.

JAMES B. CLOW & SONS, 201 to 299 N. Talman Avenue, CHICAGO  
*Offices in Principal Cities*

# CLOW

TRIUMPH [ The working units of "Triumph" fittings are readily interchangeable ] BRASS



# SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 142

## PAINTS, STAINS, VARNISHES AND WOOD FINISHES—Continued

- Protective Paints for Metal Surfaces. Bulletin No. 4.  $8\frac{1}{2} \times 11$  in. 12 pp. Illustrated. A highly technical subject treated in a simple, understandable manner.
- Someborn Sons, Inc., L.**, Dept. 4, 116 Fifth Avenue, New York. Paint Specifications. Booklet.  $8\frac{1}{2} \times 10\frac{3}{4}$  in. 4 pp.
- Valentine & Co.**, 456 Fourth Avenue, New York. How to Use Valspar. Illustrated booklet, 32 pp.,  $3\frac{3}{4} \times 8$  ins. Deals with domestic uses for Valspar.
- How to Keep Your House Young. Illustrated brochure, 23 pp.,  $7 \times 8\frac{1}{2}$  in. A useful work on the upkeep of residences.
- Zapon Co., The**, 247 Park Ave., New York City. Zapon Architectural Specifications. Booklet, 28 pp.,  $8\frac{1}{2} \times 11$  in. Describes odorless brushing and spraying lacquers and lacquer enamels.

## PANELING—See Millwork

## PARTITIONS

- Circle A Products Corporations**, New Castle, Ind. Circle A Partitions Sectional and Movable. Brochure. Illustrated.  $8\frac{1}{2} \times 11\frac{1}{4}$  in. 32 pp. Full data regarding an important line of partitions, along with Erection Instructions for partitions of three different types.
- Hauserman Company, E. F.**, Cleveland, Ohio. Hollow Steel Standard Partitions. Various folders,  $8\frac{1}{2} \times 11$ . Illustrated. Give full data on different types of steel partitions, together with details, elevations and specifications.
- Improved Office Partition Company**, 25 Grand St., Elmhurst, L. I. Telesco Partition. Catalog.  $8\frac{1}{2} \times 11$  in. 14 pp. Illustrated. Shows typical offices laid out with Telesco partitions, cuts of finished partition units in various woods. Gives specifications and cuts of buildings using Telesco.
- Detailed Instructions for erecting Telesco Partitions. Booklet. 24 pp.  $8\frac{1}{2} \times 11$  in. Illustrated. Complete instructions, with cuts and drawings, showing how easily Telesco Partition can be erected.
- Richards-Wilcox Mfg. Co.**, Aurora, Ill. Partitions. Booklet.  $7 \times 10$  in. 32 pp. Illustrated. Describes complete line of track and hangers for all styles of sliding, parallel, accordion and flush door partitions.
- Sanymetal Products Co.**, Cleveland, Ohio. Sanymetal Partitions for Toilet Rooms. Booklet.  $7\frac{3}{4} \times 11$  in. 24 pp. Illustrated. Complete data on a valuable line of toilet room partitions.
- Sanymetal Products. Brochure.  $8\frac{1}{2} \times 11$  in. 40 pp. Illustrated. Describes metal partitions, wainscots, roller hinges and toilet room hardware.
- U. S. Gypsum Co.**, Chicago. Pyrobar Partition and Furring Tile. Booklet.  $8\frac{1}{2} \times 11$  in. 24 pp. Illustrated. Describes use and advantages of hollow tile for inner partitions.

## PIPE

- American Brass Company**, Waterbury, Conn. Bulletin B-1. Brass Pipe for Water Service.  $8\frac{1}{2} \times 11$  in. 28 pp. Illustrated. Gives schedule of weights and sizes (I.P.S.) of seamless brass and copper pipe, shows typical installations of brass pipe, and gives general discussion of the corrosive effect of water on iron, steel and brass pipe.
- Clow & Sons, James B.**, 534 S. Franklin St., Chicago, Ill. Catalog "A".  $4 \times 6\frac{1}{2}$  in. 700 pp. Illustrated. Shows a full line of steam, gas and water works supplies.
- Duriron Company, Inc.**, Dayton, Ohio. Duriron Acid, Alkali, Rust-proof Drain Pipe and Fillings. Booklet, 20 pp.,  $8\frac{1}{2} \times 11$  in., illustrated. Important data on a valuable line of pipe.
- National Tube Co.**, Frick Building, Pittsburgh, Pa. "National" Bulletin No. 2. Corrosion of Hot Water Pipe, ( $8\frac{1}{2} \times 11$  in. 24 pp.) Illustrated. In this bulletin is summed up the most important research dealing with hot water systems. The text matter consists of seven investigations by authorities on this subject.
- "National" Bulletin No. 3. The Protection of Pipe Against Internal Corrosion ( $8\frac{1}{2} \times 11$  in. 20 pp.) Illustrated. Discusses various causes of corrosion, and details are given of the de-aerating and de-aerating systems for eliminating or retarding corrosion in hot water supply lines.
- "National" Bulletin No. 25. "National" Pipe in Large Buildings.  $8\frac{1}{2} \times 11$  in. 88 pp. This bulletin contains 254 illustrations of prominent buildings of all types, containing "National" Pipe and considerable engineering data of value to architects, engineers, etc.
- Modern Welded Pipe. Book of 88 pp. ( $8\frac{1}{2} \times 11$  in.), profusely illustrated with halftone and line engravings of the important operations in the manufacture of pipe.

## PLUMBING EQUIPMENT

- Clow & Sons, James B.**, 534 S. Franklin Street, Chicago, Ill. Catalog "M."  $9\frac{1}{4} \times 12$  in. 184 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.
- Crane Company**, 836 S. Michigan Avenue, Chicago, Ill. Plumbing Suggestions for Home Builders. Catalog.  $3 \times 6$  in. 80 pp. Illustrated.
- Plumbing Suggestions for Industrial Plants. Catalog.  $4 \times 6\frac{1}{2}$  in. 43 pp. Illustrated.
- Planning the Small Bathroom. Booklet.  $5 \times 8$  in. Discusses planning bathrooms of small dimensions.
- Duriron Company**, Dayton, Ohio. Duriron Acid, Alkali and Rust-proof Drain Pipe and Fittings. Booklet,  $8\frac{1}{2} \times 11$  ins., 20 pp. Full details regarding a valuable form of piping.
- Eljer Company**, Fort City, Pa. Complete Catalog.  $3\frac{3}{4} \times 6\frac{1}{4}$  in. 104 pp. Illustrated. Describes fully the complete Eljer line of standardized vitreous china plumbing fixtures, with diagrams, weights and measurements. Standardized Sixteen Circular.  $3\frac{3}{4} \times 6\frac{1}{4}$  in. 18 pp. Illustrated.

## PLUMBING EQUIPMENT—Continued

- Kohler Co.**, Kohler, Wis. Catalog F.  $7\frac{1}{2} \times 10\frac{1}{2}$  in. 216 pp. Illustrates and describes the complete line of Kohler trade-marked plumbing ware.
- Roughing-In Measurement Binder.  $5 \times 8$  in., containing loose leaf sheets on all staple fixtures.
- Maddock's Sons Company, Thomas**, Trenton, N. J. Catalog K.  $10\frac{1}{2} \times 7\frac{1}{2}$  in. 242 pp. Illustrated. Complete data on vitreous china plumbing fixtures with brief history of Sanitary Pottery.
- Mueller Co.**, Decatur, Ill. Catalog G.  $8 \times 11$  in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in measurements for built-in bath equipment.
- Speakman Company**, Wilmington, Del. Speakman Showers and Fixtures. Catalog.  $4\frac{1}{2} \times 7\frac{1}{2}$  in. 250 pp. Illustrated. Catalog of Modern Showers and Brass Plumbing Fixtures, with drawings showing layouts, measurements, etc. Toned Up in Ten Minutes. Booklet.  $7\frac{1}{2} \times 10\frac{1}{2}$  in. 16 pp. Illustrated. Modern Showers and Washups for Industrial Plants, showing the sanitary method of washing in running water.

## PUMPS

- Chicago Pump Company**, 2300 Wolfram Street, Chicago, Ill. The Correct Pump to Use. Portfolio containing handy data. Individual bulletins,  $8\frac{1}{2} \times 11$  in., on bilge, sewage, condensation, circulating, house, boiler feed and fire pumps.
- Kewanee Private Utilities Co.**, 442 Franklin St., Kewanee, Ill. Bulletin E.  $7\frac{3}{4} \times 10\frac{1}{4}$  in. 32 pp. Illustrated. Catalog. Complete descriptions, with all necessary data, on Standard Service Pumps, Indian Brand Pneumatic Tanks, and Complete Water Systems, as installed by Kewanee Private Utilities Co.

## RAMPS

- Ramp Buildings Corporation**, 21 East 40th Street, New York. Building Garages for Profitable Operation. Booklet.  $8\frac{1}{2} \times 11$  in. 16 pp. Illustrated. Discusses the need for modern mid-city parking garages, and describes the d'Humy Motoramp system of design, on the basis of its superior space economy and features of operating convenience. Gives cost analyses of garages of different sizes, and calculates probable earnings.
- Garage Design Data. Series of informal bulletins issued in loose-leaf form, with monthly supplements.
- The Trane Co.**, LaCrosse, Wis. Trane Small Centrifugal Pumps. Booklet.  $3\frac{3}{4} \times 8$  in., 16 pp. Complete data on an important type of pump.
- The Hockenbury System Incorporated**, Harrisburg, Pa., for years specializing in the financing of modern community hotels, of which they have financed a hundred such throughout the United States, has expanded its service to include the financing of MOTORAMP garage buildings. They now have available for distribution an  $8\frac{1}{2} \times 11$  booklet entitled: "The Hitching Post Problem Is Here Again," in which they explain their solution of the street motor parking problem, which will be sent free to inquiring architects.

## REINFORCED CONCRETE—See also Construction, Concrete

- The General Fireproofing Company**, Youngstown, Ohio. Self-Sentering Handbook.  $8\frac{1}{2} \times 11$  in. 36 pp. Illustrated. Methods and specifications on reinforced concrete floors, roofs and floors with a combined form and reinforced material.
- Truscon Steel Company**, Youngstown, Ohio. Shearing Stresses in Reinforced Concrete Beams. Booklet.  $8\frac{1}{2} \times 11$  in. 12 pp.
- North Western Expanded Metal Company**, Chicago, Ill. Designing Data. Book.  $6 \times 9$  in. 96 pp. Illustrated. Covers the use of Econo Expanded Metal for various types of reinforced concrete construction.

## ROOFING

- American Sheet & Tin Plate Co.**, Frick Bldg., Pittsburgh, Pa. Better Buildings. Catalog.  $8\frac{1}{2} \times 11$  in. 32 pp. Describes Corrugated and Formed Sheet Steel Roofing and Siding Products, black, painted and galvanized, with directions for application of various patterns of Sheet Steel Roofing in various types of construction.
- Copper—Its Effect Upon Steel for Roofing Tin. Catalog.  $8\frac{1}{2} \times 11$  in. 28 pp. Illustrated. Describes the merits of high-grade roofing tin plates and the advantages of the copper-steel alloy. The Testimony of a Decade. Booklet.  $8\frac{1}{2} \times 11$  in. 16 pp., with Graphic Chart and illustrations showing losses to various Iron and Steel Sheets for roofing, from atmosphere corrosion.
- Barber Asphalt Co.**, Philadelphia, Pa. Specifications, Genasco Standard Trinidad Lake Asphalt Built-up Roofing. Booklet.  $8 \times 10\frac{1}{2}$  in. Gives specifications for use of several valuable roofing and waterproofing materials.
- The Barrett Company**, 40 Rector Street, New York City Architects' and Engineers' Built-up Roofing Reference Series; Volume IV Roof Drainage System. Brochure. 63 pp.  $8\frac{1}{2} \times 11\frac{1}{4}$  ins. Gives complete data and specifications for many details of roofing.
- Philip Carey Co.**, Lockland, Cincinnati, Ohio. Architects Specifications for Carey Built-up Roofing. Booklet.  $8 \times 10\frac{1}{2}$  in. 24 pp. Illustrated. Complete data to aid in specifying the different types of built-up roofing to suit the kind of roof construction to be covered.
- Carey Built-up Roofing for Modern School Buildings. Booklet.  $8 \times 10\frac{1}{2}$  in. 32 pp. Illustrated. A study of school buildings of a number of different kinds and the roofing materials adapted for each.
- Federal Cement Tile Co.**, 608 So. Dearborn St., Chicago, Ill. The Indestructible Roof. Booklet.  $10 \times 13$  in. 32 pp. Illustrated. Illustrates and describes the installation of permanent concrete interlocking tile, tile with glass insets, flat tile and channel tile, on all types of industrial plants and other buildings with flat and pitched surfaces.



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# SELECTED LIST OF MANUFACTURERS PUBLICATIONS—Continued from page 144

## ROOFING—Continued

- Standards. Booklet.  $8\frac{1}{2} \times 11$  in. 40 pp. Illustrated with full-page drawings. Gives full details of all forms of roof construction of steel structure, ridge and gutter construction, purlin arrangement, spacing, etc., for standard roofs.
- The Ideal Retaining Wall. Leaflet, 4 pp.,  $8\frac{1}{2} \times 11$  in., illustrated. Valuable data on use of Federal Cribbing Units for constructing retaining walls.
- The Roof for Permanence. Booklet, 12 pp.,  $8\frac{1}{2} \times 11$  in., illustrated. Deals with Federal Cement Tile for flat and pitched roofs for large buildings.
- Johns-Manville, Inc.**, Madison Ave. & 41st St., New York, N. Y. Johns-Manville Building Materials. Book.  $8\frac{1}{2} \times 11$  in. 100 pp. Illustrated. A comprehensive catalog of various types of roofing for all forms of construction. Details of wall, floor and ceiling insulation; asbestos wood for fireproof construction; waterproofing, etc.
- Johns-Manville Asbestos Shingles. Booklet.  $8\frac{1}{2} \times 11$  in. 24 pp. Illustrated. This booklet is profusely illustrated in colors, showing some very artistic blends of asbestos shingles with various types of architecture. Contains many valuable suggestions for the architect.
- Ludowici-Celadon Company**, 104 So. Michigan Ave., Chicago, Ill. "Ancient" Tapered Mission Tiles. Leaflet.  $8\frac{1}{2} \times 11$  in. 4 pp. Illustrated. For architects who desire something out of the ordinary, this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made, with full corners and designed to be applied with irregular exposures.
- Milwaukee Corrugating Co.**, Milwaukee, Wis. The Milcor Architectural Sheet Metal Guide. Booklet.  $8\frac{1}{2} \times 11$  in. 64 pp. Illustrated. Gives valuable technical sheet metal data.
- Ruberoid Co., The** (formerly the Standard Paint Co.), 95 Madison Avenue, New York, N. Y. Instructions for Laying Built-up Roofs. Booklet.  $8\frac{1}{2} \times 11$  in. Illustrated.
- Ruberoid Strip Shingle. Booklet.  $3\frac{1}{2} \times 6\frac{1}{4}$  in. 16 pp. Illustrated in color.
- U. S. Gypsum Co.**, Chicago. Pyrobar Roof Construction. Booklet.  $8 \times 11$  in. 48 pp. Illustrated. Gives valuable data on the use of tile in roof construction.
- Sheetrock Pyrofill Roof Construction. Folder.  $8\frac{1}{2} \times 11$  in. Illustrated. Covers use of roof surfacing which is poured in place.
- SASH CHAIN**
- Smith & Egge Mfg. Co., The**, Bridgeport, Conn. Chain Catalog.  $6 \times 8\frac{1}{2}$  in. 24 pp. Illustrated. Covers complete line of chains.
- SASH CORD**
- Samson Cordage Works**, Boston, Mass. Catalog.  $3\frac{1}{2} \times 6\frac{1}{4}$  in. 24 pp. Illustrated. Covers complete line of rope and cord.
- SEWAGE DISPOSAL**
- Chicago Pump Co.**, 2336 Wolfram St., Chicago, Ill. Flush-Kleen Dry Basin Sewage Ejector. Booklet, 16 pp.,  $8\frac{1}{2} \times 11$  in. Illustrations and data on an important detail of equipment.
- SCREENS**
- American Brass Co., The**, Waterbury, Conn. Facts for Architects About Screening. Illustrated folder,  $9\frac{1}{2} \times 11\frac{1}{4}$  in., giving actual samples of metal screen cloth and data on fly screens and screen doors.
- Athey Company**, 6015 West 65th St., Chicago, Ill. The Athey Perennial Window Shade. An accordion pleated window shade, made from translucent Herringbone woven Coutil cloth, which raises from the bottom and lowers from the top. It eliminates awnings, affords ventilation, can be dry-cleaned and will wear indefinitely.
- The Higgin Manufacturing Co.**, Newport, Ky. Your Home Screened the Higgin Way. Booklet.  $8\frac{1}{2} \times 11\frac{1}{4}$  in. 13 pp. Illustrated in colors. Complete description of Higgin Screens, designed to meet every need.
- SEWAGE DISPOSAL**
- Kewanee Private Utilities**, 442 Franklin St., Kewanee, Ill. Specification Sheets.  $7\frac{3}{4} \times 10\frac{1}{4}$  in. 40 pp. Illustrated. Detailed drawings and specifications covering water supply and sewage disposal systems.
- SHELVING-STEEL**
- David Lupton's Sons Company**, Philadelphia, Pa. Lupton Steel Shelving. Catalog D. Illustrated brochure, 40 pp.,  $8\frac{1}{2} \times 11$  in. Deals with steel cabinets, shelving, racks, doors, partitions, etc.
- SIDEWALKS and DRIVEWAYS**
- National Steel Fabric Co.**, Pittsburgh, Pa. Sidewalks and Driveways. Folder,  $8\frac{1}{2} \times 11$  in. Practical information on laying reinforced concrete sidewalks and driveways. Detailed explanation of steel fabric reinforcement and its uses for these purposes.
- SOUND DEADENER**
- Cabot, Inc.**, Samuel, Boston, Mass. Cabot's Deadening Quilt. Brochure  $7\frac{1}{2} \times 10\frac{1}{2}$  ins., 28 pp., illustrated. Gives complete data regarding a well-known protection against sound.
- STONE, BUILDING**
- Indiana Limestone Company**, Bedford, Ind. Volume 3, Series A-3. Standard Specifications for Cut Indiana Limestone work,  $8\frac{1}{2} \times 11$  in. 56 pp. Containing specifications and supplementary data relating to the best methods of specifying and using this stone for all building purposes.
- Vol. 1. Series B. Indiana Limestone Library.  $6 \times 9$  in. 36 pp. Illustrated. Giving general information regarding Indiana Limestone, its physical characteristics, etc.
- Vol. 4. Series B. Booklet. New Edition.  $8\frac{1}{2} \times 11$  in. 64 pp. Illustrated. Indiana Limestone as used in Banks.
- Volume 5. Series B. Indiana Limestone Library. Portfolio.  $11\frac{1}{4} \times 8\frac{1}{4}$  in. Illustrated. Describes and illustrates the use of stone for small houses with floor plans of each.
- Volume 6, Series B—Indiana Limestone School and College Buildings.  $8\frac{1}{2} \times 11$  in., 80 pages, illustrated.
- Volume 12, Series B—Distinctive Homes of Indiana Limestone.  $8\frac{1}{2} \times 11$  in., 48 pages, illustrated.
- Old Gothic Random Ashlar.  $8\frac{1}{2} \times 11$  in., 16 pages, illustrated.

## STORE FRONTS

- Brasco Manufacturing Co.**, 5025-35 South Wabash Avenue, Chicago, Ill. Portfolio.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrated. Selected examples of Brasco Copper Store Fronts suitable for different businesses and varying conditions of locations.
- Catalog 28.  $8\frac{1}{2} \times 10\frac{1}{4}$  in. 20 pp. Illustrated with plates. Details of Brasco Copper Store front construction. Also show-cases, ventilator sashes.
- Detail Sheets. Set of five sheets giving details and suggestions for store front designing enclosed in envelope convenient for filing.
- Brasco Copper Store Fronts; Series 202, Brasco Standard Construction. Illustrated brochure. 16 pp.  $8\frac{1}{2} \times 11$  ins. Complete data on an important type of building.
- Brasco Copper Store Fronts; Series 500, All-copper Construction. Illustrated brochure. 20 pp.  $8\frac{1}{2} \times 11$  ins. Deals with store fronts of a high class.
- Kawneer Co., The**, Niles, Mich. A Collection of Successful Designs. Catalog.  $9\frac{1}{4} \times 6\frac{1}{2}$  in. 64 pp. Illustrated. Showing by use of drawings and photographs many types of Kawneer Solid Copper Store Fronts.
- Catalog L, 1925 Edition.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrated. Details of copper store front construction.
- Metal Store Fronts. Sheets,  $17 \times 22$  in. Draftsmen's details of copper store fronts for use in tracing.
- Zouri Drawn Metals Company**, Chicago Heights, Ill. Zouri Safety Key-Set Store Front Construction. Catalog.  $8\frac{1}{2} \times 10\frac{1}{2}$  in. 60 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.
- International Store Front Construction. Catalog.  $8\frac{1}{2} \times 10$  in. 70 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.
- SWIMMING POOL CONSTRUCTION**
- Sandusky Cement Co.**, Dept. F., Cleveland, Ohio. Medusa Pool Book. Booklet.  $8\frac{1}{2} \times 11$  ins. 16 pp. Illustrated. Valuable work on bathing pools, indoors and outdoors.
- SWIMMING POOL EQUIPMENT & STERILIZATION**
- R. U. V. Company, Inc.**, 383 Madison Avenue, New York City. Water Sterilization by Means of Ultra Violet Rays. Booklet  $8\frac{1}{2} \times 11$  in. 16 pp. Full data on a system of purifying water.
- Swimming Pool Sterilization. Booklet  $8\frac{1}{2} \times 11$  in. 24 pp. Describes a method purifying water in bathing pools.
- Wallace & Tiernan Company**, Newark, N. J. The W. & T. Chlorometer, Technical Publication, No. 55. Booklet,  $8\frac{1}{2} \times 11$  in. 8 pp. Illustrated. A useful brochure dealing with the value of pure water and the importance of the chlorination process in sterilization.
- TECHNICAL PAINTING**
- Toch Brothers**, 110 East 42nd Street, New York City. Specifications for Dampproofing, Waterproofing, Enameling and Technical Painting. Complete and authoritative directions for use of an important line of materials.
- TERRA COTTA**
- National Terra Cotta Society**, 19 West 44th St., New York, N. Y. Standard Specifications for the Manufacture, Furnishing and Setting of Terra Cotta. Brochure  $8\frac{1}{2} \times 11$  in. 12 pp. Furnishing and Setting of Terra Cotta, consisting of complete detail Specification, Glossary of Terms Relating to Terra Cotta and Short Form Specification for incorporating in Architects' Specifications.
- Color in Architecture. Revised Edition. Permanently bound volume  $9\frac{1}{2} \times 12\frac{1}{4}$  in., containing a treatise upon the basic principles of color in architectural design, illustrating early European and modern American examples. Excellent illustrations in color.
- Present Day Schools.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrating 42 examples of school architecture with article upon school building design by James O. Betelle, A. I. A.
- Better Banks.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrating many banking buildings in terra cotta with an article on its use in bank design by Alfred C. Bossom, Architect.
- TILE, HOLLOW**
- National Fire Proofing Co.**, 250 Federal St., Pittsburgh, Pa. Standard Wall Construction Bulletin 174.  $8\frac{1}{2} \times 11$  in. 32 pp. Illustrated. A treatise on the subject of hollow tile wall construction.
- Natco on the Farm.  $8\frac{1}{2} \times 11$  in. 38 pp. Illustrated. A treatise on the subject of fire safe and permanent farm building construction.
- Natco Homes and Garages. Booklet.  $7 \times 10$  in. 32 pp. Illustrated. Showing the use of Natco Hollow Tile for private residences.
- TREADS**
- The Tri-lok Company**, 5515 Butler Street, Pittsburgh, Pa. What a Difference Three Locks Make. Folder. 4 pp.  $8\frac{1}{2} \times 11$  ins. Deals with a means of holding slender members of metal in accurate alignment.
- VACUUM CLEANING APPARATUS**
- The Spencer Turbine Company**, Hartford, Conn. Vacuum Cleaning Apparatus for all purposes. Booklet. 32 pp. Illustrated. Complete information on product, showing prominent buildings equipped with this system.
- VALVES**
- Crane Co.**, 836 S. Michigan Ave., Chicago, Ill. No. 51. General Catalogue. Illustrated. Describes the complete line of the Crane Co.
- Illinois Engineering Co.**, Racine Ave., at 21st St., Chicago, Ill. Catalog.  $8\frac{1}{2} \times 11$  in. 88 pp. Illustrated.
- Jenkins Bros.**, 80 White Street, New York. The Valve Behind a Good Heating System. Booklet  $4\frac{1}{2} \times 7\frac{1}{4}$  in. 16 pp. Color plates. Description of Jenkins Radiator Valves for steam and hot water, and brass valves used as boiler connections.



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### SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 146

#### VALVES—Continued

Jenkins Valves for Plumbing Service. Booklet.  $4\frac{1}{2} \times 7\frac{3}{4}$  in. 16 pp. Illustrated. Description of Jenkins Brass Globe, Angle Check and Gate Valves commonly used in home plumbing, and Iron Body Valves used for larger plumbing installations.

Mueller Co., Decatur, Ill.

Catalog G, 8 x 11 in., 316 pages. Profusely illustrated. Contains full data on plumbing, water and gas brass goods, including valves, faucets, traps, regulators, built-in bath equipment, and automatic systems of hot water control. Complete details are presented with a number of data sheets showing roughing-in measurements for built-in bath equipment.

#### VENETIAN BLINDS

Burlington Venetian Blind Co., Burlington, Vt.

Venetian Blinds. Booklet, 7 in. x 10 in., 24 pages. Illustrated. Describes the "Burlington" Venetian blinds, method of operation, advantages of installation to obtain perfect control of light in the room.

#### VENTILATION

American Blower Co., Detroit, Mich.

American H. S. Fans. Brochure, 28 pp.,  $8\frac{1}{2} \times 11$  in. Data on an important line of blowers.

Duriron Company, Dayton, Ohio.

Acid-proof Exhaust Fans. Folder, 8 x  $10\frac{1}{2}$  ins., 8 pp. Data regarding fans for ventilation of laboratory fume hoods. Specification Form for Acid-proof Exhaust Fans. Folder, 8 x  $10\frac{1}{2}$  ins.

Globe Ventilator Company, 205 River Street, Troy, N. Y.

Globe Ventilators Catalog. 6 x 9 in. 32 pp. Illustrated profusely. Catalog gives complete data on "Globe" ventilators as to sizes, dimensions, gauges of material and table of capacities. It illustrates many different types of buildings on which "Globe" ventilators are in successful service, showing their adaptability to meet varying requirements.

Peerless Unit Ventilation Company, Long Island City, N. Y.

PeerVent Heating and Ventilating Unit. Brochure 6 x  $6\frac{1}{4}$  in. Illustrated. Valuable data on apparatus for ventilating and heating buildings of different types.

Van Zile Ventilating Corporation, 155 East 42nd Street, New York, N. Y.

The Ventadoor Booklet.  $6\frac{1}{4} \times 3\frac{1}{2}$  in. 16 pp. Illustrated. Describes and illustrates the use of the Ventadoor for Hotels, Clubs, Offices, etc.

#### WATERPROOFING

Carey Company, The Philip, Lockland, Cincinnati, Ohio.

Waterproofing Specification Book.  $8\frac{1}{2} \times 11$  in. 52 pp.

The General Fireproofing Company, Youngstown, Ohio.

Waterproofing Handbook. Booklet.  $8\frac{1}{2} \times 11$  in. 72 pp. Illustrated. Thoroughly covers subject of waterproofing concrete, wood and steel preservatives, dustproofing and hardening concrete floors, and accelerating the setting of concrete. Free distribution.

A. C. Horn Company, Long Island City, N. Y.

Waterproofing. Folder.  $9\frac{1}{2} \times 11\frac{1}{2}$  in. Contains folders giving data on excellent waterproofing and dampproofing materials.

Master Builders Company, Cleveland, Ohio.

Waterproofing and Dampproofing and Allied Products. Sheets in loose index file, 9 x 12 in. Valuable data on different types of materials for protection against dampness.

Ruberoid Co., The, 95 Madison Ave., New York.

Impervite. Circular.  $8\frac{1}{2} \times 11$  in. 4 pp. Illustrated. An integral water-proofing compound for concrete, stucco, cement, mortar, etc.

Sandusky Cement Co., Dept. F., Cleveland, Ohio.

Medusa Waterproofing. Booklet.  $6\frac{3}{4} \times 9$  in. 38 pp. Illustrated. Medusa Waterproofing; General specifications. Booklet.  $8\frac{1}{2} \times 11$  ins. 32 pp.

Sommers & Co., Ltd., 342 Madison Ave., New York City.

"Permantile Liquid Waterproofing" for making concrete and cement mortar permanently impervious to water. Also circulars on floor treatments and cement colors. Complete data and specifications. Sent upon request to architects using business stationery. Circular size,  $8\frac{1}{2} \times 11$  in.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.

Pamphlet.  $3\frac{3}{4} \times 8\frac{3}{4}$  in. 8 pp. Explanation of waterproofing principles. Specifications for waterproofing walls, floors, swimming pools and treatment of concrete, stucco and mortar.

Toch Brothers, 110 East 42nd Street, New York City.

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#### WEATHER STRIPS

Chamberlin Metal Weather Strip Company, 1644 Lafayette Boulevard, Detroit, Mich.

Chamberlin Metal Weather Strip Details, 1925 edition. Catalog  $8\frac{1}{2} \times 11$  in. 48 pp. Complete specifications and full-sized details. With or without 9 x  $11\frac{1}{4}$  in. folder conforming to A. I. A. filing system. May also be used in loose leaf form. Excluding Cold and Dust with Chamberlin for 32 years. Booklet  $5\frac{1}{2} \times 7\frac{3}{4}$  in. 16 pp. Illustrated. Completely and interestingly illustrates application of Chamberlin equipment.

The Higgin Manufacturing Co., Newport, Ky.

Higgin All-Metal Weather Strips. Booklet. 6 x 9 in. 21 pp. Illustrated in colors. Describes various types of Higgin Weather Strips for sealing windows and doors against cold and dust.

#### WINDOWS

David Lupton's Sons Company, Philadelphia, Pa.

Lupton Pivoted Sash, Catalog 12-A. Booklet 48 pp.  $8\frac{1}{2} \times 11$  in. Illustrates and describes windows suitable for manufacturing buildings.

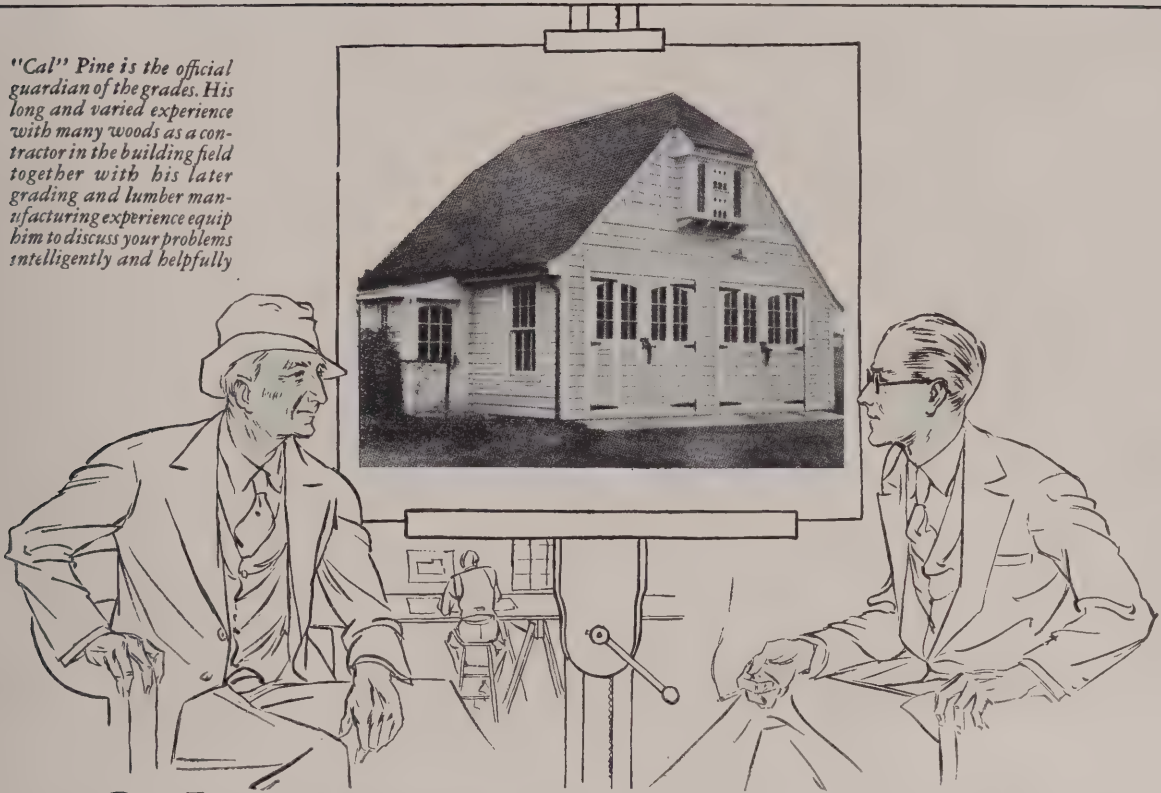
#### WINDOWS. CASEMENT

Richards-Wilcox Mfg. Co., Aurora, Ill.

Casement Window Hardware. Booklet. 24 pp.  $8\frac{1}{2} \times 11$  in. Illustrated. Shows typical installations, detail drawings, construction details, blue-prints if desired. Describes AIR-way Multifold Window Hardware.



"Cal" Pine is the official guardian of the grades. His long and varied experience with many woods as a contractor in the building field together with his later grading and lumber manufacturing experience equip him to discuss your problems intelligently and helpfully



## "Cal" Pine and the Architect

### Discuss Garages and Garage Doors

"WHAT are your reasons, 'Cal' Pine, for recommending California White Pine and Sugar Pine for garages and garage doors?"

"All the reasons for the use of these woods in house construction apply to garage construction. I don't know any other wood that has so many service qualities for the purpose. For framing, these pines have sufficient strength and are free from twisting. Freedom from warping and end shrinking keeps joints tight—this is an important quality, both in garages and garage doors. The uniform soft texture and close, even grain of California Pine make cutting and sawing easy without splintering, hence less waste of material. It takes and holds nails tightly, right up to edges and ends without splitting, it permits accurate, permanent joinery and faithful rendering of the sharp lines and contours of architectural designs. Garage doors made of California Pine have the strength to stand hard knocks but they are light enough in weight to hang true on hinges without strain. They are not subject to twisting, swelling or contracting—they open and shut without sticking."

"How about painting qualities of California Pine?"

"There too, you have many advantages in specifying this wood. It is most economical to paint. Its smooth, satiny surface requires less time for painting and because of its own natural light color it requires fewer coats for a fine job. Absence of grain-raising tendencies further insure the lasting beauty of the painter's work."

"Does California Pine come in all forms for garage construction?"

"Yes—dimension for framing comes in standard grades and sizes and for siding you can have all sizes of bevel siding, even the extra wide known as Eastern Colonial, while all patterns of drop and rustic sidings are always available, made from either select or common grades, usually from the latter, which are economical in cost, smoothly milled and when painted make a first class job suitable for any garage. My illustrated book of grades, forms and sizes will give you full specification data. A postcard will bring you a copy without cost."



**CALIFORNIA WHITE AND SUGAR PINE MANUFACTURERS ASSOCIATION**

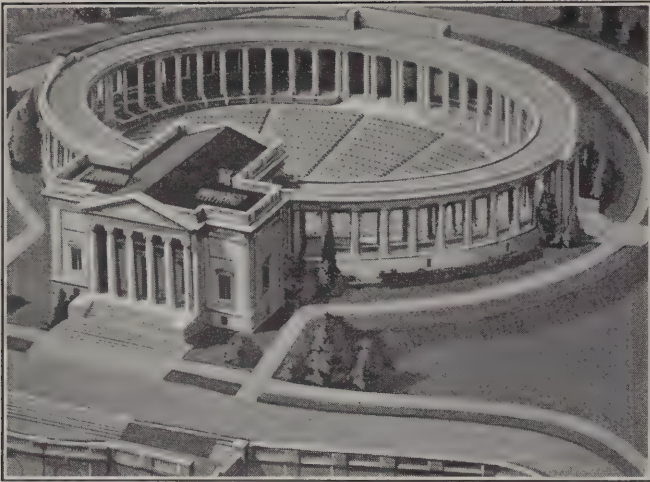
Also producers of CALIFORNIA WHITE FIR • CALIFORNIA DOUGLAS FIR • CALIFORNIA INCENSE CEDAR  
654 CALL BUILDING, SAN FRANCISCO

# california PINE

California White Pine (trade name)

California Sugar Pine





MEMORIAL AMPHITHEATRE, ARLINGTON NATIONAL CEMETERY, WASHINGTON, D. C. The great arcade is covered with a layer of Genasco Asphalt Mastic  $1\frac{1}{4}$  inches in thickness. Contractor: R. V. Roulon, Philadelphia.

## They ripped it off and put on Genasco!

When the covering on this magnificent memorial failed to afford the protection for which it was chosen, it was decided to turn to nature's own unequalled wear and weather resistant—and the handsome arcade is now adequately protected by Genasco Asphalt Mastic.

Because it is made from Trinidad Native-Lake Asphalt, it possesses the same protective properties which have made Trinidad famed the world over as a street-paving material for the past half-century.

So extremely satisfactory has Genasco Asphalt Mastic proved as a flooring in manufacturing establishments, warehouses, hospitals, stores, schools, and other public and private buildings, that it has come into use for numerous other purposes where resistance to wear and weather is an important factor.

Genasco Asphalt Mastic is resilient, noiseless, dustless, sanitary, water-proof, and gives such service as no other flooring can equal. Laid in one unbroken sheet—as a new floor or over old floors—and ready for use in a few hours.

Let us send you complete information about this wonderful material. Write us today.

**The Barber Asphalt Company**  
Philadelphia  
New York Chicago Pittsburg St. Louis Kansas City San Francisco

# Genasco

REG. U. S. PAT. OFF.

## Asphalt Mastic

The modern flooring for large areas

### SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 148

#### WINDOWS, CASEMENT—Continued

- Crittall Casement Window Co.**, 10951 Hearn Ave., Detroit, Mich. Catalog No. 22. 9 x 12 in. 76 pp. Illustrated. Photographs of actual work accompanied by scale details for casements and composite steel windows for banks, office buildings, hospitals and residences.
- Hope & Sons, Henry**, 103 Park Ave., New York, N. Y. Catalog.  $12\frac{1}{4}$  x  $18\frac{1}{2}$  in. 30 pp. Illustrated. Full size details of outward and inward opening casements.
- David Lupton's Sons Company**, Philadelphia, Pa. Lupton Casement of Copper-Steel. Catalog C-122. Booklet 16 pp.  $8\frac{1}{2}$  x 11 in. Illustrated brochure on casements, particularly for residences.
- Truscon Steel Co.**, Youngstown, Ohio. Truscon Steel Casements. Booklet,  $8\frac{1}{2}$  x 11 in., 2 4pp. Handsomely printed with illustrations of houses equipped with Truscon Casement Windows. Illustrations of various units and combinations. Specifications, types and sizes and details of construction.
- Architectural Details. Booklet,  $8\frac{1}{2}$  x 11 in, 16 pp. Tables of specifications and typical details of different types of construction.
- List of Parts for Assembly. Booklet,  $8\frac{1}{2}$  x 11 in., 16 pp. Full lists of parts for different units.

#### WINDOWS, STEEL AND BRONZE

- The Kawneer Company**, Niles, Mich. Kawneer Simplex Windows. Catalog.  $8\frac{1}{2}$  x  $10\frac{1}{2}$  in. 16 pp. Illustrated. Complete information, with measured details, of Kawneer Simplex Weightless Reversible Window Fixtures, made of solid bronze. Shows installations in residences and buildings of all sorts.
- Detail Sheets and Installation Instructions. Valuable for architects and builders.
- Metal Windows. Catalog.  $8\frac{1}{2}$  x 11 in. 18 pp. Illustrated. Features double-lining and casement windows of metal.
- David Lupton's Sons Company**, Philadelphia, Pa. A Rain-shed and Ventilator of Glass and Steel. Pamphlet, 4 pp.  $8\frac{1}{2}$  x 11 in. Deals with Pond Continuous Sash, Sawtooth Roofs, etc.
- How Windows Can Make Better Homes. Booklet.  $3\frac{1}{2}$  x 7 in. 12 pp. An attractive and helpful illustrated publication on use of steel casements for domestic buildings.
- Truscon Steel Company**, Youngstown, Ohio. Truscon Mechanical Operators for Steel Windows. Brochure,  $8\frac{1}{2}$  x 11 in., 65 pp. Complete description of various kinds of installations with drawings of details.
- Drafting Room Standards. Book,  $8\frac{1}{2}$  x 11 in., 120 pages of mechanical drawings showing drafting room standards, specifications and construction details of Truscon Steel Windows, Steel Lintels, Steel Doors and Mechanical Operators.
- Daylighting and Ventilating Power Housses. 32-pp. booklet,  $8\frac{1}{2}$  x 11 in., illustrating the economical application of Truscon Windows in modern power house design.
- Truscon Solid Steel Double-Hung Windows. 24-pp. booklet,  $8\frac{1}{2}$  x 11 in., containing illustrations of buildings using this type of window. Designs and drawings of mechanical details.
- Truscon Donovan Awning Type Steel Windows. 12-pp. booklet,  $8\frac{1}{2}$  x 11 in., illustrating typical installation and giving construction details.

#### WOOD—See also Millwork

- American Walnut Mfrs. Association**, 618 So. Michigan Blvd., Chicago, Ill. American Walnut. Booklet. 7 x 9 in. 45 pp. Illustrated. A very useful and interesting little book on the use of Walnut in Fine Furniture with illustrations of pieces by the most notable furniture makers from the time of the Renaissance down to the present.
- "American Walnut for Interior Woodwork and Paneling." 7 x 9 in. pages, illustrated. Discusses interior woodwork, giving costs, specifications of a specimen room, the different figures in Walnut wood, Walnut floors, finishes, comparative tests of physical properties and the advantages of American Walnut for woodwork.
- California White and Sugar Pine Mfrs. Assn.**, San Francisco, Calif. Information Sheet No. 1, California White Pine; Information Sheet No. 2, California Sugar Pine. Illustrated booklets 8 x  $10\frac{1}{2}$  in. First of a series of Information Sheets on these woods and their uses for construction and finish.
- Introducing "Cal" Pine, Guardian of the Grades. Booklet, 50 pp.,  $7\frac{3}{4}$  x  $10\frac{1}{4}$  ins. Illustrated. Valuable data on siding, battens, flooring, mouldings, etc.
- A series of information sheets on California White Pine, Sugar Pine, California White Fir, Douglas Fir and Incense Cedar. Technical data as to supply, production, quantities, uses, grades and sizes of all lumber products of the mills in the Association. Furnished with standard size filing folder for easy reference. Information sheets are 8 x  $10\frac{1}{2}$  in. text matter is arranged in uniform style.
- Curtis Companies Service Bureau**, Clinton, Iowa. Better Built Homes. Vols. XV-XVIII, incl. Booklet. 9 x 12 in. 40 pp. Illustrated. Designs for houses of five to eight rooms, respectively, in several authentic types, by Trowbridge & Ackerman, architects, for the Curtis Companies.
- Long-Bell Lumber Co.**, Kansas City, Mo. The Perfect Floor. Booklet  $5\frac{1}{4}$  x  $7\frac{1}{4}$  in. 16 pp. Illustrated. Valuable for the data given on the use of wood for floors.
- Saving Home Construction Costs. Booklet  $4\frac{1}{2}$  x  $7\frac{1}{2}$  in. 24 pp. Discusses economy and value in domestic building.
- Experiences in Home Building. Booklet 6 x 9 in. 16 pp. Records the testimony of a number of builders and contractors as to the value of certain materials.
- The Post Everlasting. Booklet 8 x 11 in. 32 pp. Illustrated. Describes the production of posts and their use in various ways.

#### WOOD FINISHES—See Paints, Varnishes, Stains





## When PRIVACY Counts

WHEN important matters are being discussed between executives by telephone—when the successful handling of matters requires not only absolute privacy, but instant and accurate connections—this is the time when business most appreciates these individual features of P-A-X.

By means of the P-A-X Conference Wire service—which necessitates no outside or switchboard calls—the executive can have several of his staff on the wire at one time. Each person, in his own private office, takes part in the general conference the same as if all were together in one room—and this with the assurance that no one can cut in.

This ability of P-A-X to delegate private inter-office calls direct to the persons concerned, isolating all switchboard or outside interferences and precluding even the possibility of "cut-ins", is one of the many reasons for its adoption by more than 2,000 banks, manufacturers, and other business organizations of every line, both in America and in foreign countries.

~Count on



*P-A-Xophone, Type 1*

The P-A-Xophone fills a rapidly growing need for an instrument with all of the compactness and efficiency of the conventional telephone, but with the additional advantage of having the transmitter and receiver in a single, easily-handled unit. This is the P-A-Xophone Desk Set No. 1; available for use with all types of P-A-X.



The P-A-X is, fundamentally, a private automatic telephone exchange built of the same Strowger type of automatic telephone equipment being so widely adopted for city service. The P-A-X may be furnished to include and co-ordinate such services as code call, conference, executive's priority, emergency alarm, etc., to meet individual needs.

# Automatic Electric Inc.

Engineers, Designers and Manufacturers of the Automatic Telephone In Use the World Over.

Home Office and Factory, CHICAGO, ILL. Branch Offices in all principal cities.



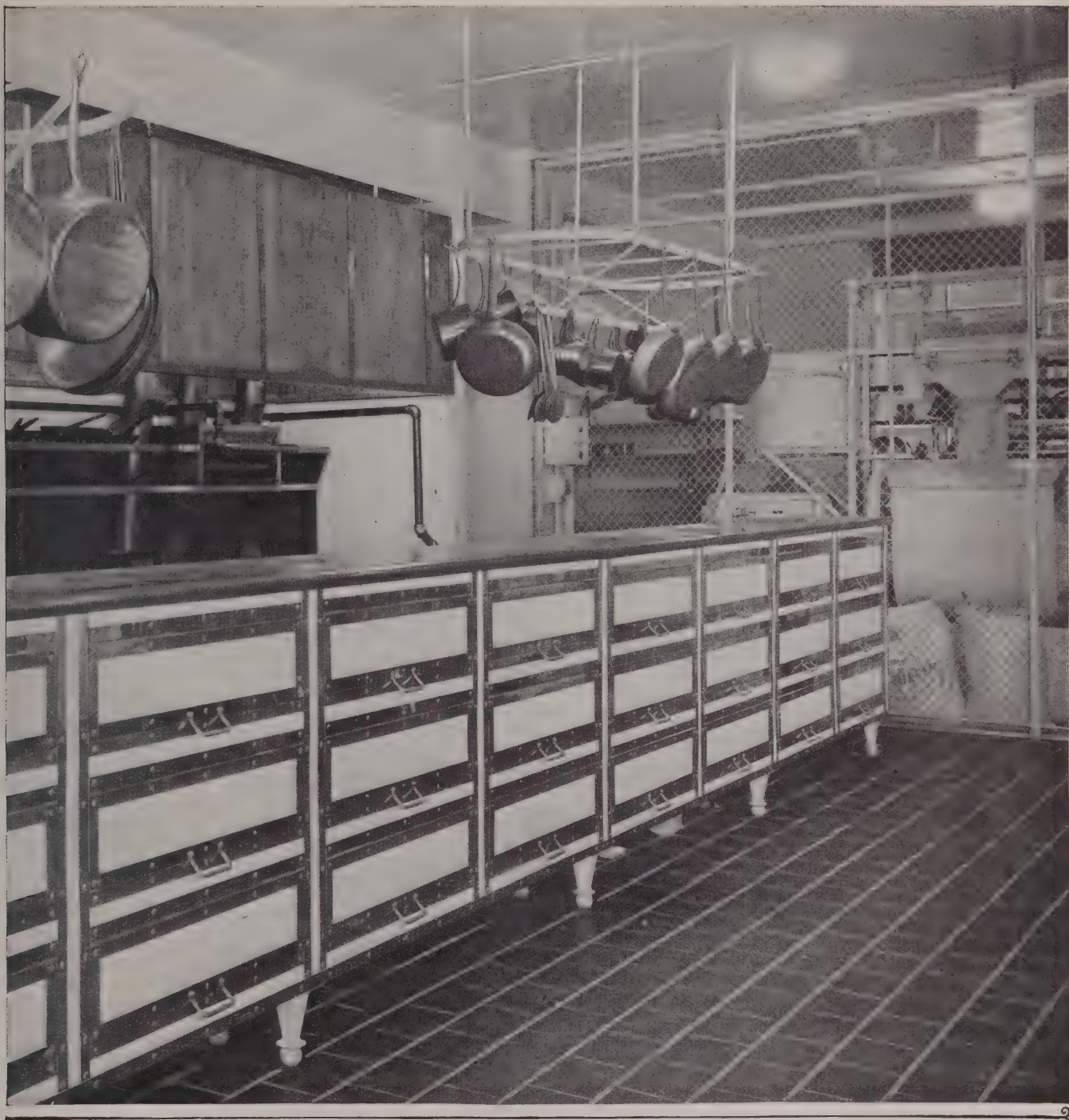


# Beauty and Enduring Worth are Combined in PIX Kitchens

THE WORLD'S LEADING EQUIPMENT HOUSE FOR







The public may with freedom be invited to inspect any Albert Pick & Company Kitchen. Gleaming cleanliness is everywhere apparent. This Kitchen of the new Standard Club, Chicago, is a recent example of PIX Engineering

**ALBERT PICK & COMPANY**

208-224 WEST RANDOLPH ST. CHICAGO

HOTELS. RESTAURANTS. CLUBS. HOSPITALS





Residence Thos. J. Usher, Jr.,  
Birmingham, Mich.  
C. E. Reichle Co., Designers  
and Builders

R. F. Birby Residence, St. Louis, Mo. Beverley T. Nelson, Architect

## Casements Have Varied Uses

The accompanying photographs illustrate the wide range of effects to which Crittall Standardized Casements are adapted. Beautiful steel casement windows give themselves to the architect's ideas of design in a multiplicity of ways. The different arrangements possible in wholly standard sizes, the varying widths in mullions and transom bars, the flexibility of beautiful leaded glass, all combine to assist the skillful designer in obtaining surpassingly beautiful effects.

Crittall Standardized Casements are made in both inward and outward opening types. They are *guaranteed* weather-tight. They are priced so low they are suitable for your most modest commissions. Their quality is such they will grace your finest work.

**CRITTALL**  
*Standardized*  
*Casements*

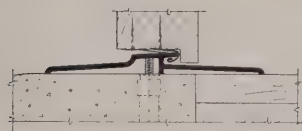
*A catalog will be gladly mailed on request or our nearest representative will submit a sample for your inspection*

CRITTALL CASEMENT WINDOW COMPANY    Manufacturers  
10969 HEARN AVENUE, DETROIT, MICHIGAN

Also Makers of Crittall Steel Casement Windows built to the architect's sizes, designs and specifications



# *Beauty plus Protection-* **CHAMBERLIN** **SILL-DOR-SEAL**



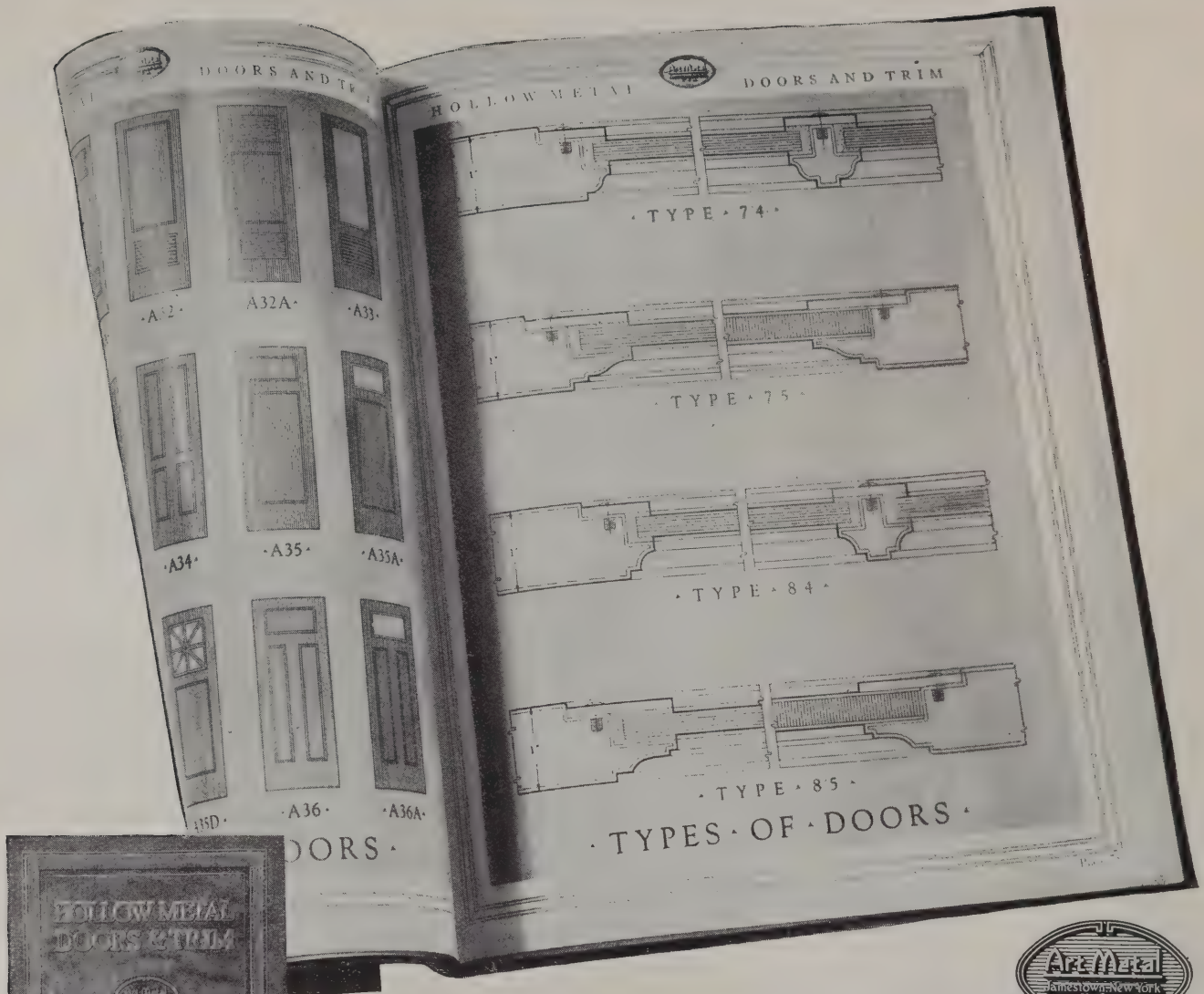
Chamberlin installation practice specifies that the bottoms of doors shall be rabbetted  $\frac{1}{4}$  inch deep x  $1\frac{3}{8}$  inches wide ( $\frac{1}{4}$  inch deep x 1-inch wide for  $1\frac{3}{8}$  inch doors) and equipped with a cold rolled bronze hook, .0225-inch, thick, securely nailed so as to tightly interlock with the inner lip of the Sill-Dor-Seal when doors are closed.

CHAMBERLIN Sill-Dor-Seals become outstanding features of finer residential buildings because of the attractiveness and protection they lend to entrance doorways. Chamberlin Sill-Dor-Seals are made of extruded brass—highly polished and artistically formed. They are securely anchored to either wood, stone or metal sills where they seal door bottoms most effectively, shutting out draughts, rain, snow and dust. And at the same time, they add dignity and beauty to the building threshold. The inclusion of the extra wide Chamberlin Sill-Dor-Seal No. 36 puts the final touch to Chamberlin door equipment which seals jambs and heads of entrance doors by interlocking weather strip members or by highly tempered, hemmed edge, flexible spring bronze. Send for detailed drawings and specification sheets.

**CHAMBERLIN**  
**SILL-DOR-SEAL**  
"FOR OUTSIDE DOORS"

**CHAMBERLIN METAL WEATHER STRIP COMPANY**  
West Lafayette Blvd., Detroit, Michigan

100 Sales and Service Branches Throughout the United States



## Limitless in Service

TO both the Architect and the Builder this factful Catalog of ART METAL Hollow Metal Doors and Trim presents an invaluable fund of information and suggestion applicable to every project requiring a hollow metal installation. Picturing representative ART METAL installations and a complete series of architectural detail plates, it furnishes data that invites constant and ready reference to its pages.

*Limited in edition, the Art Metal Hollow Metal Catalog is available to executives only. A request for it on your letterhead will bring you your registered copy.*

ART METAL places at the disposal of architects and builders the experience of a third of a century in the designing and execution of interior equipment in metal. Many of the finest of modern buildings are equipped throughout with Art Metal Doors, Trim, etc. A number of these installations are illustrated in the Art Metal Hollow Metal Catalog.

# Art Metal

*Hollow Metal Doors and Trim. Steel and Bronze Equipment for Banks, Libraries, Public Buildings, Steel Office Equipment, Safes and Files.*

ART METAL CONSTRUCTION CO., JAMESTOWN, N. Y.



*Unsightly Window Shades  
are a thing of the past.*



The Elks Memorial Building, Chicago, is another of the fine buildings equipped with Athey Perennial Shades

## *Athey Perennial* Window Shades

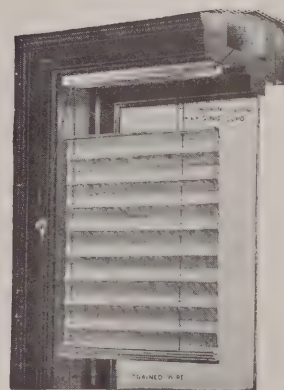
**Increase Architectural Beauty—yet are the most practical shades made**

Beauty must naturally be a first consideration in planning fine buildings—yet practicability must not be sacrificed. Shades are no longer a bothersome question for Athey Perennial Window Shades enhance architectural beauty **yet are the most practical shades made.**

The specially woven (non-fading) Coufil cloth of which they are made gives windows a draped appearance in harmony with the architectural effect of the building.



Room in the Elks Memorial in Chicago showing the versatility of Athey Shades. They are made in any length, and in widths up to 16 feet, for any type of window, including the difficult circle head type



They run on strained wires eliminating all fluttering when the windows are open. The can be raised from the bottom, or lowered from the top, to shade the portion of the window that requires it without shutting out all the light and air. They do everything awnings can do, eliminating that expense, fire hazard and unsightliness. Yet thousands of installations—many of them 10 years old and more—**prove they last so long they actually are the least expensive shades obtainable.**

## *Athey Company*

6025 West 65th Street - Chicago, Illinois

In Canada: CRESSWELL-McINTOSH, Reg'd  
270 Seigneurs St., Montreal, Que.





## Which answer would you give?

Sixty-five architects were recently called upon and their opinion of Win-Dor Casement Hardware asked. Our purpose at the time was merely to convince hardware dealers in California that there is a real market there and a real preference for our line.

But the answers we received were so outspokenly gratifying that we feel certain you will find them interesting.

26 architects promise to use Win-Dor in future.

22 say Win-Dor is the best they have seen and promise to use it.

3 promise to submit Win-Dor to their clients.

14 have accepted literature, sample specifications, etc., but make no definite promise.

65

*48 enthusiastic, 3 favorable  
14 non-committal*

We would like to call on every architect in the country. We would like to demonstrate Win-Dor equipment in every specification writer's office. But that is impossible.

However, we believe that the above figures prove conclusively that we have produced a better kind of casement hardware, a kind worth a few minutes of your time to investigate.

We, therefore, ask that you let us send you complete information and specification data on wood and metal casements.

There is no obligation whatsoever and we believe you owe it to your clients to learn fully about anything which is so widely endorsed as Win-Dor. Why not drop us a line today?

# Win-Dor

## CASEMENT HARDWARE

THE CASEMENT HARDWARE COMPANY

404-A North Wood Street, Chicago

CASEMENT HARDWARE HEADQUARTERS

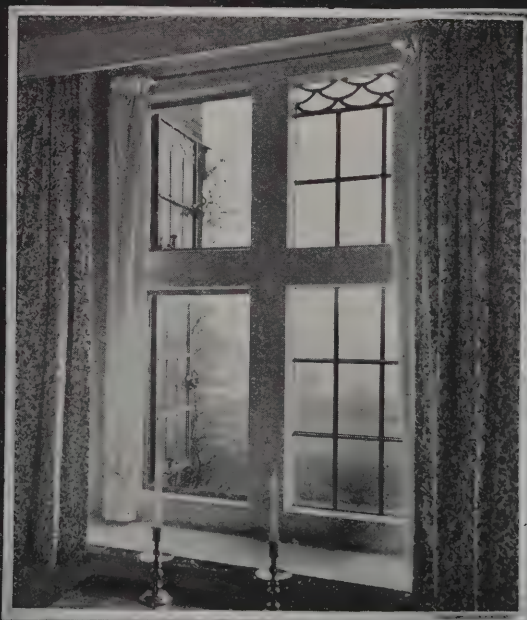
# AUSTRAL WINDOWS



VENTILATION  
WITHOUT  
DRAFT

AUSTRAL WINDOW CO.  
101 PARK AVE., NEW YORK CITY

# HOPE'S CASEMENTS



HENRY HOPE & SONS  
103 PARK AVENUE NEW YORK





*The low cost  
of these high-  
grade windows  
permits you to  
use them thru-  
out your client's  
house for very  
little money~*

THIS UNIT \$10.30

DAVID LUPTON'S SONS CO. PHILADELPHIA  
**LUPTON**  
STEEL CASEMENTS

BUY LUPTON CASEMENTS,  
BASEMENT WINDOWS AND PIVOTED  
SASH FROM LOCAL DEALERS STOCKS



ALL TYPES  
OF STEEL  
WINDOWS



Montgomery Ward Memorial Bldg.,  
Medical and Dental Schools,  
Northwestern University,  
McKinlock Campus,  
Chicago, Illinois.

James Gamble Rogers, Architect,  
New York City.

Childs & Smith, Associate Archi-  
tects, Chicago, Ill.

W. L. Fergus, Heating Engineer,  
Chicago, Ill.

Wm. A. Pope, Heating Contrac-  
tor, Chicago, Ill.



Arco Packless Valves for  
steam, water or vapor, are  
made in angle, corner and  
globe patterns.

## The 1500 valves in this famous building will need no attention

**I**N THIS newest addition at North-  
western University where Arco  
Packless Valves are installed on all  
of the 1500 radiators, there will be no  
trouble calls to stop leaks. And there  
will be no annual repacking to increase  
maintenance expense.

Arco Packless Valves were selected  
because they bring to every building  
these four advantages:

1. Arco Packless Valves are good looking.  
They add a finishing touch of smartness  
to a radiator.

2. They prevent leaks — one of which may  
cost more than all the valves in the  
building.

3. They pay for themselves by saving the  
annual expense of repacking.

4. They add to the comfort of the owner or  
his tenants. Arco Packless Valves open  
with one smooth turn.

A heating plant deserves accesso-  
ries that insure perfect performance.  
Every radiator deserves an Arco  
Packless Valve.

The Arco Packless Valve is one of  
many heating accessories made and  
guaranteed by

### AMERICAN RADIATOR COMPANY

816 So. Michigan Ave.

Specialties Department

Chicago, Ill.

## ARCO Packless Valves



# CHICAGO *too, favors* AERO *~ The Radiator* Vogue

In these two apartments, among the finest in Chicago, Aero Radiators were given the preference.

This merely points the way and strengthens the contention that Aero, the most approved of all new style radiation, has become *The Radiator Vogue*.

Manufacturers, throughout the country, are scrapping millions of dollars worth of equipment in an effort to produce a radiator similar in type. In fact, so popular has the Aero Radiator proven, its name has become synonymous of all so-called new style radiators.

If you want a radiator you can use on every job and stand back of—if you want a beautiful, graceful, slender radiator that has a tremendous sales appeal and is readily acceptable everywhere—if you want a radiator that sells at the same standard sheet price as the old radiator types—if you want a radiator approved by Architects, Engineers and Heating Contractors alike—you want a *genuine* AERO RADIATOR; not an Aero type radiator.

Literature mailed free upon request.

## NATIONAL RADIATOR COMPANY

JOHNSTOWN, PA.

New York Philadelphia Baltimore Washington Richmond Pittsburgh  
Cincinnati Cleveland Chicago



At top:—Apartment, 1130 Lake Shore Drive, Chicago, Illinois.

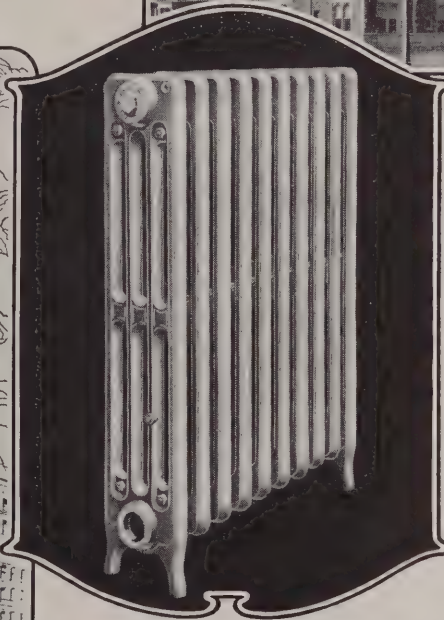
At lower left:—Cornelia Apartment Hotel, Chicago.

Robert DeGoyer, Architect.

H. L. Clute & Co., Mechanical Engineers.

Davis Construction Company, Heating Contractors.

The beautiful, graceful, slender and pleasingly proportioned Aero Radiator is used throughout on both of these buildings.



Above is shown the newest unit—4 column pattern—of the first and only complete line of new style radiators, which were introduced more than four years ago. Like the rest of the complete Line of Aero Radiators, this pattern is top and bottom push-nipple connected, which makes it not only leak proof but suitable to any method of heating, whether it be a steam, vapor or hot water job. Four patterns and eighteen heights comprise the Aero Line, from which you can pick a pattern and height to exactly suit your requirements.

BEAUTY *and* WARMTH with

# AERO RADIATORS





### THE "GLOBE" SKYLIGHT A New Line Added to the "Globe" Ventilators

ARCHITECTS, builders and owners will effect a material saving in cost by using stock size skylights. The above illustration shows various types of "Globe" skylights which can be furnished in standard sizes.

"Globe" skylights are made of 24 gauge galvanized Armco Iron with  $\frac{1}{4}$  in. rough wire glass, equipped with double condensation gutters, and are ventilated by "Globe"

ventilators of the proper sizes, which are also made of heavy galvanized Armco Iron.

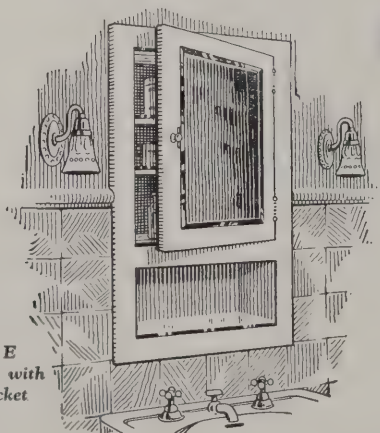
We shall be glad to furnish full information upon request and also to send Detail Sheet of the "Globe" ventilator which has back of it years of proved efficiency in the ventilation of buildings.

DEPT. F

GLOBE VENTILATOR COMPANY

TROY, N. Y.

## HESS CABINETS and MIRRORS *Snow-White Steel*



STYLE E  
to recess with  
open pocket  
below.

HESS Cabinets and Mirrors are **matchless** in their satiny snow-white coats;—**hand rubbed** in the manner the finest furniture is finished. Best polished plate glass mirrors, brass handles and hinges, heavily nickel plated.

They are suitable for the finest bathrooms,—low enough in price for the moderate price builder.

Specify them and please your client; See Sweet's Catalogue.

HESS WARMING & VENTILATING CO.  
Makers of Hess Welded Steel Furnaces.  
1216 S. Western Avenue, Chicago

## VENTADOOR *A ventilating panel for doors*



Ventadoors give thorough Ventilation in the modern way and add to the harmonious beauty of the door.

**VAN ZILE VENTILATING  
CORPORATION**  
155 EAST 42nd ST.  
NEW YORK CITY



# Announcing

## The Dunham Differential Vacuum Heating System

*A System of Heating which heats a building with coal—gas—or oil fuel, without the fuel and heat-waste of over-heating in mild weather.*

SEVERAL years of intensive research work with analytical operative tests in the company's research laboratories, are back of this announcement of the Dunham Differential Vacuum Heating System. The practicability and fuel-saving efficiency of this new system of heating is further proved by its actual operation in several commercial installations. Performance, not guess work, is therefore the foundation of this announcement.

The Dunham Differential Vacuum Heating System provides a fixed differential that permits circulation of steam at all pressures and temperatures. Circulation is more uniformly distributed than possible heretofore, because the pressure (absolute) in the supply main is always slightly greater than that in the return main.

Outstanding features of this 1926 Dunham Contribution to the science of heating are (1) a much greater fuel economy when firing with coal; (2) a practical and economical use of gas and oil in all types of buildings.

**DUNHAM**  
HEATING SERVICE

**THIS** Differential System will properly heat any building without the fuel and heat-waste of over-heating in mild weather. It furnishes steam to the radiators at a high degree of vacuum with correspondingly low radiator temperature, without water accumulating in radiators or steam leakage to returns.

This is accomplished by

- regulating the pressure, or vacuum, at which the steam circulates in the supply piping
- controlling the vacuum pump so that a substantially constant difference in pressure is maintained between the supply and return piping.

Pressure, or vacuum, is thus maintained on the steam supply to provide the desired room temperature, by controlling the heat emission from the radiators at the same rate as it is being lost from the building.

The generation of steam, when starting a cold boiler begins at a much lower temperature than under atmospheric pressure because of the vacuum produced by the pump. The steam expands under the vacuum condition and fills the radiator with the result that substantially the entire radiator surface is working at either a high or low temperature.

In mild weather the differential controller on the vacuum pump maintains the condition in the return mains at a pressure less, or vacuum greater, than in the supply mains. Circulation is therefore maintained irrespective of supply pipe pressure or vacuum. The system fills with steam at pressures below atmosphere and the Dunham Traps on the radiators function to pass all air and water and to close against steam under this wide range of conditions.

In severe weather the pressure can be regulated to supply steam at such a rate that the supply piping and radiators will have a pressure greater than atmosphere.

**IT WILL** be recognized that the Dunham Differential Vacuum Heating System achieves a goal of fuel-saving and temperature-comfort long sought in steam heating. We believe that this announcement marks an epoch-making advance over present types of steam heating systems, even the most modern. We shall be glad to send descriptive literature to those interested. A request on your business letterhead will bring it to you.

*The Dunham Differential Vacuum Heating System is fully covered by patents and pending applications for patents in the United States, Canada and foreign countries. Any infringements will be vigorously prosecuted.*

**C. A. DUNHAM CO.**

**DUNHAM BUILDING**

**450 East Ohio Street    ☺   ☺   ☺   Chicago**



## SELF CLEANING CARTON FURNACE

Home of Edwin Jensen,  
Minneapolis, Minnesota,  
warmed by an Inter-  
national Carton.



# In Your Client's Best Interests



### THE RADIATOR

This is the Carton's SELF CLEANING RADIATOR in which soot or dust cannot accumulate, but must fall back on the fire.

Specifying the International Carton Self Cleaning Furnace, to be installed in accordance with the Standard Code, is surely working in your client's best interests—and in your own—

For the Carton will warm the home most efficiently—and for many years. There are Cartons still in active use which were installed sixty years ago.

### ALWAYS FREE OF SOOT

Scientifically correct design and enduring construction are the reasons.

First, a radiator that is *always* free of soot means constantly maintained efficiency.

Then, a combustion dome or mixing

chamber that insures correct combustion.

And finally such details of sturdy, enduring construction as an ashpit and a feed chute without joints, preventing dust and gas leaks; a firepot that will not crack, cast in two sections with a deep cup joint; herringbone, triangular grates which mean a cleaner fire; and a *double* casing!

Architects, heating engineers, write for catalog 1818-F, describing the Carton in detail. We will also send a copy of the Standard Code.

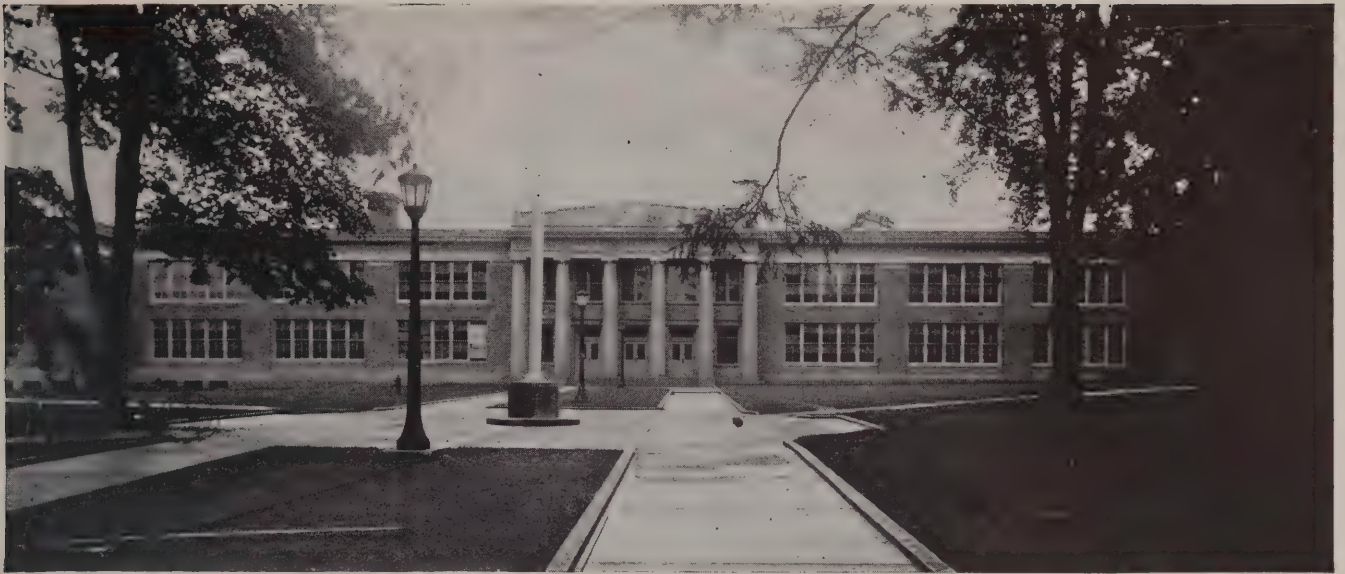
**International Heater Company**  
Utica, N. Y.

Cleveland Chicago Detroit  
New York City Philadelphia  
Nashua, N. H.

# INTERNATIONAL

STEAM AND HOT WATER BOILERS, WARM AIR FURNACES AND ONEPIPE HEATERS





The Madison High School, Madison, N. J. Heating Contractors—Johnston Heating Co., New York City  
Architects—Guilbert & Betelle, Newark, N. J.

## *Specialists in school construction select Ideal Boilers for model school*

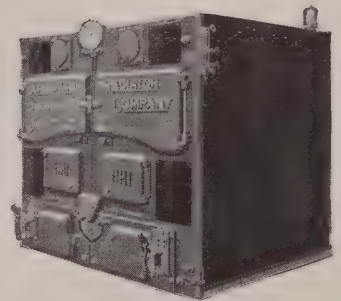
THIS new high school was planned by architects who have made a great success of schoolhouse construction.

The heating installation was made by heating contractors who have made a great reputation for themselves in heating and ventilating for school work.

Their selection of Ideal Boilers and American Radiators for this model school was a stamp of approval which should mean a great deal to architects in every part of the country.

Three 79" Ideal Water Tube Boilers have been installed with 7900 square feet of American Radiators.

The many interesting points of construction of the new Ideal Water Tube and Smokeless Boilers have been described and illustrated in attractive catalogues which every architect should have. Simply write for catalogues on Ideal Water Tube and Smokeless Boilers.



A battery of three 79" Ideal Water Tube Boilers is installed in the model schoolhouse at Madison, New Jersey.

# AMERICAN RADIATOR COMPANY

Showrooms and sales offices: New York, Boston, Providence, New Haven, Newark, Philadelphia, Baltimore, Washington, Richmond, Buffalo, Pittsburgh, Cleveland, Detroit, Cincinnati, Atlanta, Chicago, Milwaukee, Indianapolis, St. Louis, St. Paul, Minneapolis, Omaha, Kansas City, Denver, San Francisco, Los Angeles, Seattle, Toronto, London, Paris, Milan, Brussels, Berlin

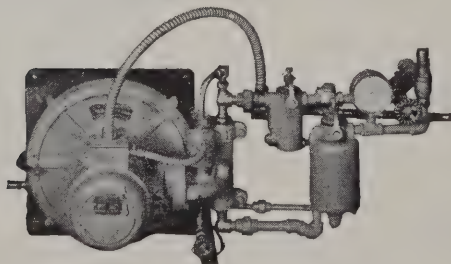
Makers of IDEAL BOILERS and AMERICAN RADIATORS and other products for heating, ventilating and refrigerating



HOTEL ASTOR,  
Milwaukee,  
heated safely,  
economically and  
conveniently with  
Johnson Oil Burners

*Holds No Terrors Where There's Johnson Oil*  
**HEAT**

The colder the weather, the more Johnson Oil Burners are appreciated! The thermostat of the Johnson Automatic Burner is actuated by a change of *one degree* in room temperature! Delivery of fuel is simple; there is no worry concerning coal strikes and shortages. In bungalows and sky-scrapers, hotels, apartments, schools, factories and hospitals . . . all over the world, Johnson Oil Burners are providing comfort and security . . . . .



THE Johnson Automatic Rotary Burner is approved by Underwriters' Laboratories and New York Board of Standards and Appeals.

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# in 6 colors

## Colored at the Mill Ready for Immediate Use

*A zero weather mortar  
stronger than any  
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Now WIFCO, the super-mortar, is available in the six preferred colors that have heretofore had to be added to ordinary mortar right on the job.



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WIFCO BUFF



WIFCO NATURAL

Color is ground into WIFCO at the mill and is therefore an integral part of it. The ingredients of each sack of WIFCO Super-Mortar are identical with, and are mixed in the same proportions as, those of every other sack containing the same color. The colors will not fade. Neither will they stain masonry.

Thus at one stroke the hazards of deviating from the color sample are avoided—the waste in time, labor and materials is done away with—and the danger of weakening a wall by the dilution which often occurs through the use of colored mortar is entirely eliminated.

No longer will it be necessary to mix color with mortar on the job. WIFCO Super-Mortar comes with the color already in it, scientifically and exactly proportioned. WIFCO is made by formula. Each lot is tested to insure uniformity.

A colored super-mortar—stronger in every way—one that improves with the years—this is what WIFCO Super-Mortar is. It costs less than ordinary mortar and coloring materials. It costs less to mix. There is no waste—mortar left on the mortar board can be used the next day.

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WIFCO Super-Mortar is strong, like Superior Portland Cement, and is manufactured at the same plant. WIFCO is a plastic mortar. Bricklayers find it works better than any mortar they have ever used.

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THE WELLSTON IRON FURNACE COMPANY  
JACKSON, OHIO



# WIFCO





Two "King Coal" automatic mechanical stokers under two 250 hp. Kroeschell Boilers at the Riverside Brookfield High School, Riverside, Illinois.

## Public buildings should lead in smoke prevention

Schools and other public buildings ought to point the way for private owners in the matter of smokeless combustion, not only to be consistent with public smoke regulations, but also to secure the obvious fuel and labor economies which result.

But often the small size of boiler plants in these public buildings makes smokeless operation difficult. The new "King Coal" automatic mechanical stoker designed especially for boilers of 40 to 250 hp. meets this need exactly. It is the product of the twenty-five years' experience of Mr. Joseph Harrington with stokers and other coal burning equipment. It is daily demonstrating its simplicity and economy in dozens of plants.

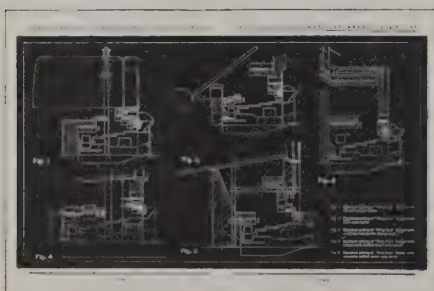
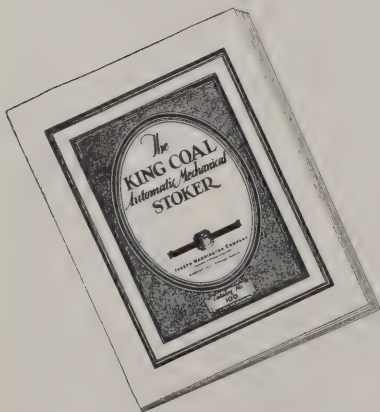
May we send a list of users and full details for your file?

**JOSEPH HARRINGTON COMPANY**

(Subsidiary of Whiting Corporation)

HARVEY, ILLINOIS (Chicago Suburb)

AF12-Gray



Get this new stoker catalog. It contains information of value in designing every small boiler plant.



DEPENDABLE HEAT ALL OVER THE HOUSE WITH ECONOMY

Not only the boiler  
but also heating-comfort  
—GUARANTEED

Most guarantees are only promises to replace defective parts. Good, as far as they go.

But Capitol *guaranteed heating* is a remarkable, new-type guarantee; a definite, non-quibbling guarantee of results. It guarantees not only parts, but performance. It is a complete and broad warrant of heating satisfaction and comfort—in writing. For if any Capitol boiler under stated conditions fails to heat satisfactorily its full published amount of cast iron radiation, the necessary additional capacity is supplied without charge.

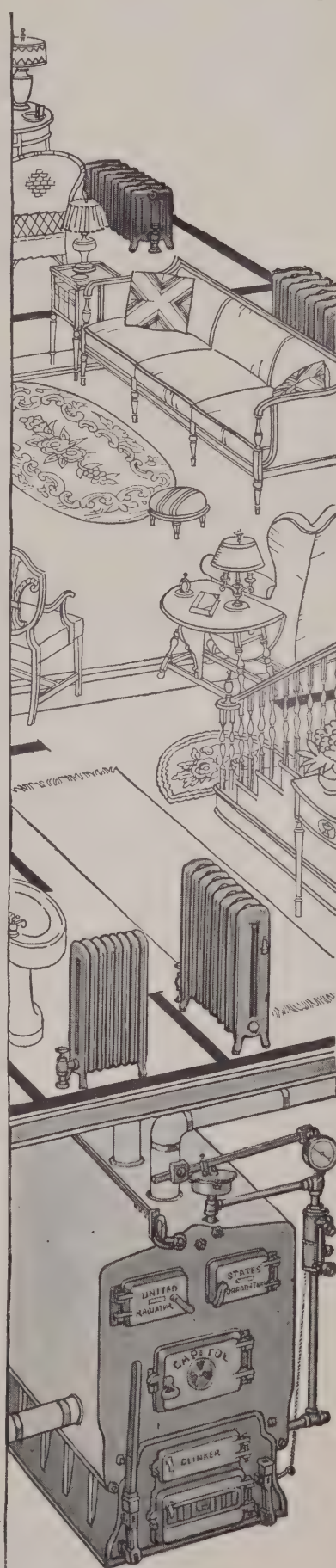
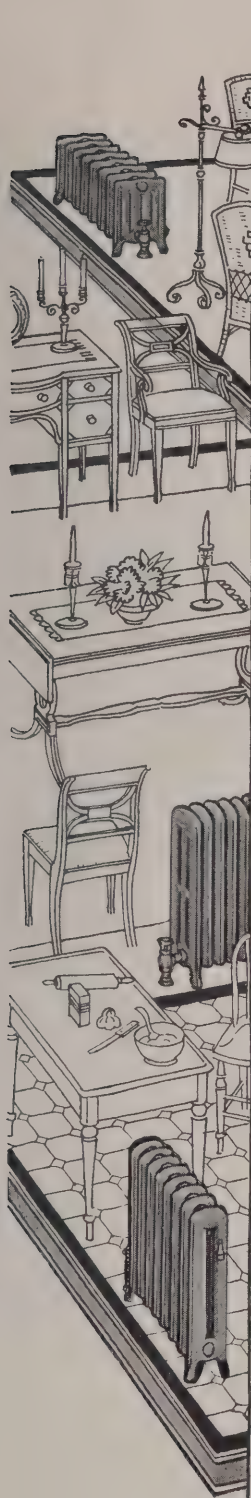
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DETROIT, MICHIGAN

6 FACTORIES AND 28 ASSEMBLING PLANTS  
SERVE THE COUNTRY

For 36 years, builders of dependable heating equipment

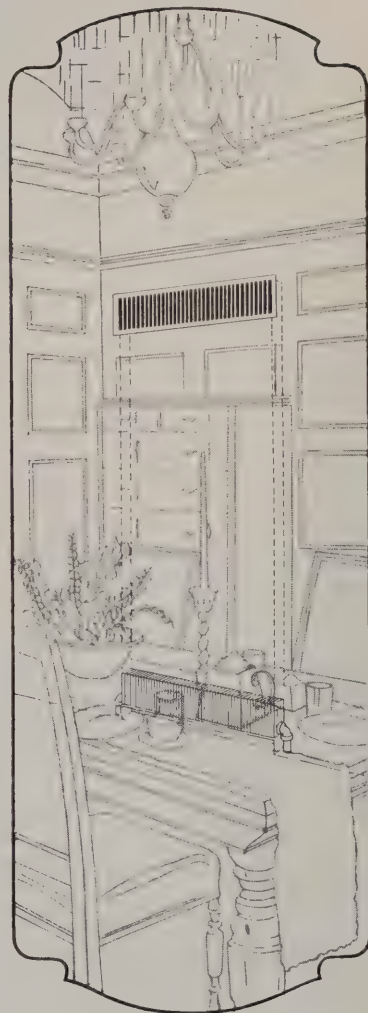
Capitol  
Boilers  
*and*  
UNITED STATES  
RADIATORS



SUPPLIED AND INSTALLED NATIONALLY BY ESTABLISHED HEATING CONTRACTORS



# Forever out of the way



How the Herman Nelson Invisible Radiator fits in the wall is shown by this phantom view. Send for the book below.



Herman Nelson Corporation,  
Moline, Illinois  
Please send me the facts about  
the Herman Nelson Invisible  
Radiator.

Name.....

Address.....

## HERMAN NELSON *Invisible* RADIATOR

With the **Wedge Core**

INDESTRUCTIBLE  
TRADE MARK

**T**HE Herman Nelson Invisible Radiator eliminates exposed radiators, does away with makeshift radiator covers, ornamental boxes and screens, and makes every inch of floor and wall space usable.

It is only 1/8 the size and 1/10 the weight of a cast-iron radiator of equal capacity, and is specially designed to be installed in any 4" wall or partition. Constructed without a single soldered, welded or brazed joint, it

cannot rust or wear out, and even the most extreme expansion and contraction strains cannot make it leak.

The Herman Nelson Invisible Radiator is a thoroughly tested product. Its acceptance for all advanced building is inevitable. Full information about the Herman Nelson Invisible Radiator with its unlimited possibilities for added beauty and comfort in the home will be mailed you upon request.

**THE HERMAN NELSON CORPORATION, Moline, Ill.**  
Also builders of Univent Ventilation

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## Oil-O-Matic Heat Specified *in Country Life's New Model House*

A HOUSE so prominent in the public eye, and sponsored by such arbiters of good taste, must bear the closest scrutiny.

How futile to lay out spacious, lovely rooms that might be chilly in winter. To design great expanses of windows calling for draperies too fine to be soiled by the grime of coal dust.

How futile, indeed, to plan a house for a family accustomed to every modern convenience and then subject them to the uncertainties of old-fashioned methods of heating!

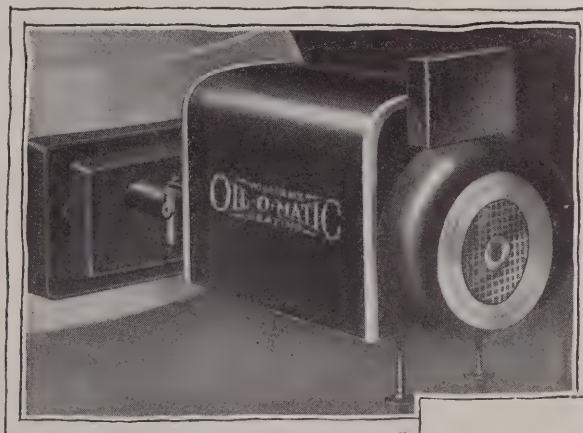
The editors of *Country Life* magazine appreciated this.

And in their desire to make their house perfect as regards architectural beauty, quality of construction, and selection of materials, they included in their specifications Williams Oil-O-Matic.

They knew that for seven years Oil-O-Matic has shown how perfect oil heat can be. That today it is the most widely enjoyed oil burner in the world.

The local oilomatician in your community will gladly

assist you in figuring oil heat in your specifications. Write for a copy of OIL HEATING—and what it means to the architect. Williams Oil-O-Matic Heating Corp., Bloomington, Illinois.



Oil-O-Matic is adapted to buildings of any size and in any good heating plant.

# WILLIAMS OIL-O-MATIC HEATING

WORLD'S LARGEST PRODUCER OF AUTOMATIC OIL BURNERS

HOME IS WHERE THE HART IS



# What Kind of Oil Does it Burn?

Be sure you know the answer to that question when you select an Oil Burner.

The Hart Oil Burner is especially designed to use efficiently the lower gravity fuels which contain more heat units, which are always plentiful and relatively low priced.

That's one reason why the Hart is preferred by so many architects and engineers.

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For your information, we offer without cost a crisp booklet giving brief mechanical specifications and other basic facts of the Hart Oil Burner. Write for it today.

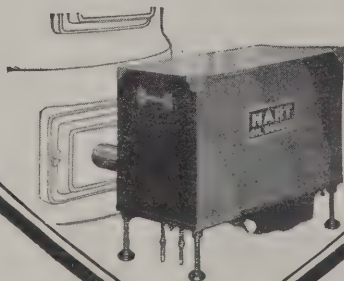
## HART OIL BURNER

*Manufactured by*

**W. B. WILDE COMPANY**

*For 36 years makers of precision machinery*

2158 North Adams Street, Peoria, Illinois



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Underwriters' Laboratories, Inc.

The Hart Dealer in your city  
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☐ Booklet on the Hart Electric Icer.

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*These photographs  
were taken exactly  
3 minutes apart!*

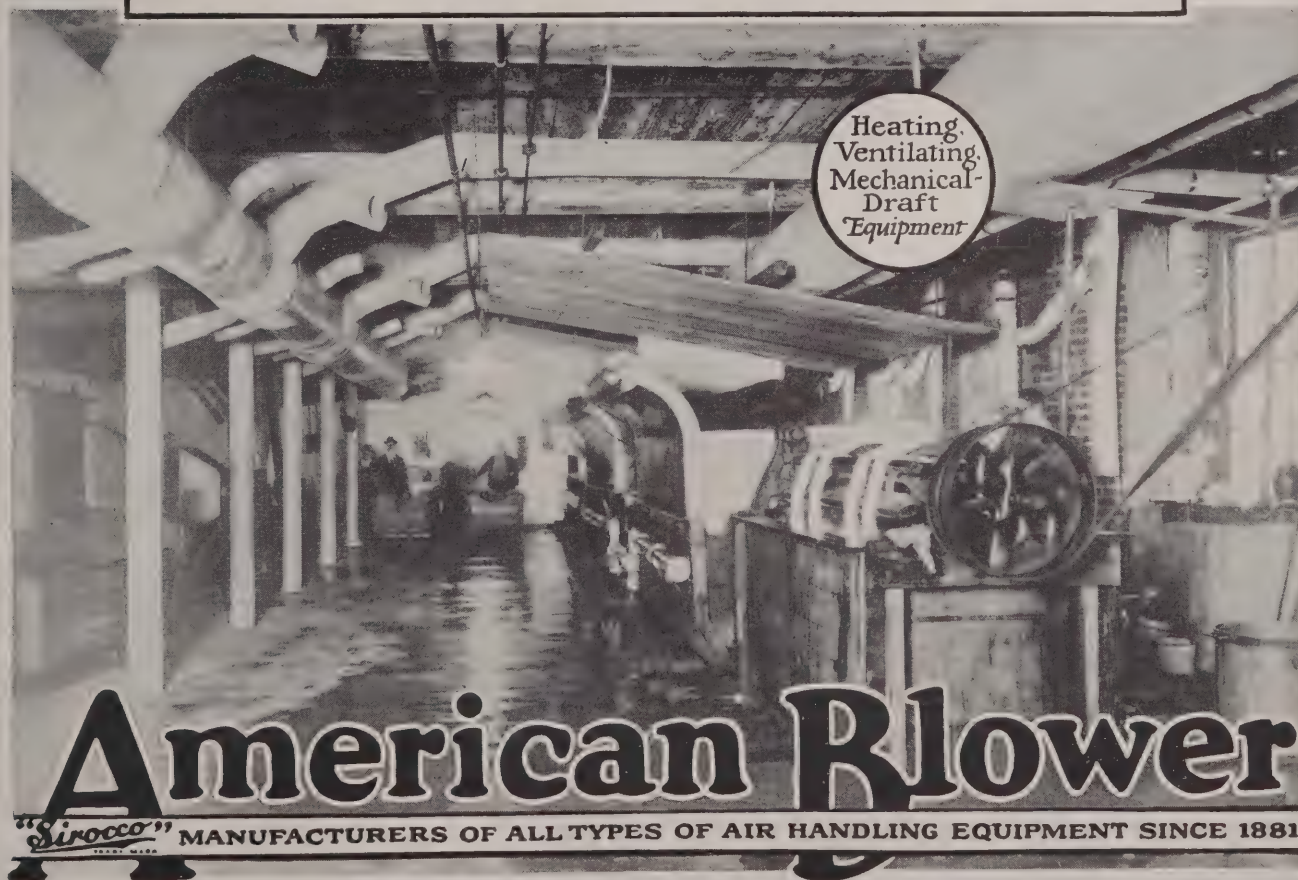
AMERICAN BLOWER COMPANY  
*Detroit, U.S.A.*



*Above*—Dye house with American Blower Ventilation turned off.

*Below*—Same room exactly 3 minutes after starting American Blower Ventilating Equipment. Your ventilation can be cared for as easily, quickly, and efficiently as this with American Blower Equipment. Write for complete information.

(574)



# Spencer

steam, vapor or hot water

# Heaters

A size and type for every heating purpose and every kind of building

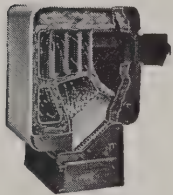


Spencer Junior Hot Water Heater—capacity in direct cast iron radiation equivalent, water, 300 to 600 square feet.

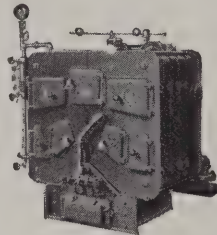
## SPENCER HEATER COMPANY WILLIAMSPORT, PA.

### General Offices:

New York City Boston Philadelphia Baltimore Buffalo Rochester  
Hartford Washington Detroit Albany Syracuse Harrisburg Scranton



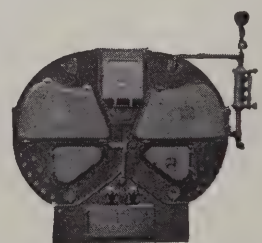
Spencer No. 1 Single Grate Heater, capacity in direct cast iron radiation equivalent, water, 800 to 1450 square feet; steam or vapor, 500 to 900 square feet.



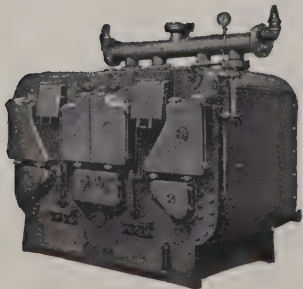
Spencer No. 2 Double Grate Heater, capacity in direct cast iron radiation equivalent, water, 1750 to 3800 square feet; steam, 1100 to 2350 square feet.



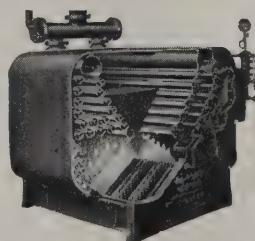
Spencer Tubular Steam Heater—15 to 21 Series—capacity in direct cast iron radiation equivalent—1900 to 3600 square feet.



Spencer Tubular Steam Heater—50 Series—capacity in direct cast iron radiation equivalent 4500 to 7000 square feet.



Left—Spencer Tubular Steam Heater—100 Series—capacity in direct cast iron radiation equivalent 7500 to 15000 square feet.



Right—Interior view showing construction principle.



All Spencer Heaters may be hooked up in battery where a flexible supply of heat is needed, or where the total radiation tax is greater than the capacity of a single boiler.





West Junior High School, Ashtabula, Ohio, equipped throughout with PeerVent Units.  
Architects, Franz C. Warner and W. R. McCornack, Cleveland, O. Heating and ventilating  
contractors, R. T. Withers Sons Co., New Castle, Pa.

## UNIT CONTROL of heat and ventilation satisfies everyone

**Y**OU would not think of going back to the old systems of sanitation, fire prevention, etc., now that the present-day controllable systems are to be obtained. Isn't it just as illogical to keep on using the older methods of ventilation, such as opening and closing windows or the central fan system?

As one architect wrote us recently, "the occupants of various rooms have as many ideas of heat and ventilation as there are rooms." The only way to please all is to furnish PEERVENT UNIT CONTROL. Then *each room* gets exactly the amount of warm fresh air that is needed, regardless of weather, direction of wind, or other variable factors.

The supply of fresh air is constant (while the room is occupied), but the temperature can be adjusted accurately—either by hand or automatically—to meet any requirements.

Perfectly flexible control is only one of many desirable features of PEERVENT UNIT heating and ventilating.

*Send for the PeerVent catalogue. If you wish we will gladly send our local sales representative.*

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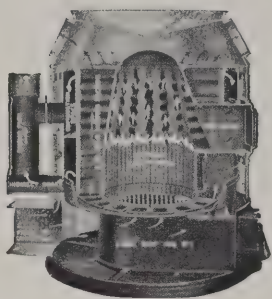
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1836 Euclid Avenue

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## Cuts Costs 3 Ways

### Cuts FUEL Bills—

The zig-zag tube construction gives the Kelsey fire chamber at least three times the heating surface of an ordinary warm air heater. That explains why the Kelsey is so economical on fuel. Hardly any heat goes up the chimney—the smoke pipe is always cool.

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The family in a Kelsey heated home is protected from colds, sore throat, headaches, and similar ills that are caused by stale, dried-out air. The Kelsey supplies fresh, "live" warm air, moistened to the proper degree by the automatic humidifier.

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**THE KELSEY**  
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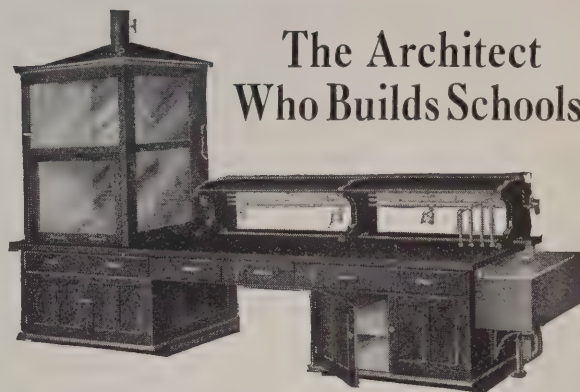
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of these heavy  
Zig-Zag  
Tubes  
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Kelsey



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*See Sweet's Catalog. Write  
for Sash Chain Catalog A1*

**The SMITH & EGGE MFG. CO.**  
Bridgeport, Conn.

ORIGINATORS OF SASH CHAINS



# Reinforced Concrete Saved 20%

***A Saving of \$60,134.00  
Was Made On This Omaha Job!***



***The Reinforcing Steel  
for This  
Entire Job  
Was Delivered from  
Our Warehouse Stock  
As Required***

**T**HE original plans for the Metropolitan Utilities Service Building at Omaha called for a structural steel building at a cost of \$288,500.00. A re-design of the structural frame resulted in the expenditure of \$228,366.00, making a saving of \$60,134.00.



Make it a point to call upon our Engineering Department. Each member is technically trained and always ready to assist Architects, Engineers and Contractors with layouts and estimates for the reinforced concrete portion of building work.

This is one of the everyday examples of the economy of reinforced concrete construction for fireproof buildings. It is also another example where **Ceco** warehousing and fabrication facilities have again proved their efficiency.

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All **Ceco** Reinforcing Bars are inspected and tested by Robt. W. Hunt & Co., Engineers, to conform to the specifications of the American Society of Testing Materials.

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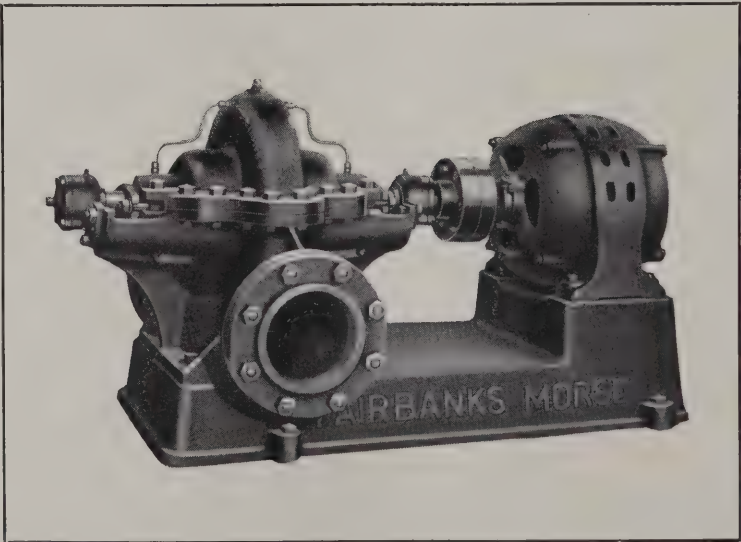
**— See SWEET'S**



Fairbanks-Morse centrifugal pumps were selected for booster service in the Hamilton County Court House, Cincinnati, Ohio. At the left, the F-M installation in this large public building.



A typical motor-pump combination, ball-bearing throughout of high efficiency and exceptionally fine balance, *unit-built* by Fairbanks-Morse.





# 24-hour-a-day *pumping service*

**F-M unit-built equipment has proved equal to this responsibility**

Among the many Fairbanks-Morse pumping units built for meeting the responsibility of 24-hour-a-day service, F-M centrifugal pump-and-motor combinations offer numerous advantages.

Both the pump and the motor are designed and built together, perfectly balanced, with complete responsibility for satisfactory, uninterrupted operation in the hands of one manufacturer. This is a distinctive F-M advantage that appeals to experienced pump users and is an important factor in selection.

Moreover, these units incorporate the famous F-M ball-bearing construction in both motor and pump. Shafts are carried on permanently true centers with all journal wear eliminated. Dependability is insured because the usual sources of friction and wear have been designed out. Attendance is reduced to a minimum.

In qualities of precise, durable, full-measure construction, these pump-motor units are representative of the entire F-M line, which embraces centrifugal, steam and power pumps for building service.

Write for Bulletin H301—a treatise on the factors governing the selection of pumps for buildings.

**FAIRBANKS, MORSE & CO., Chicago**

*28 branches in principal cities throughout the United States*

Fairbanks-Morse pumping equipment provides dependable and efficient operation for the following kinds of pumping service:

- General water service
- Hot-water supply
- Ice-water supply
- Boiler-feed service
- Heating and condensation
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- Fire protection
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- Refrigeration
- Sump pumping

Fairbanks-Morse engineers will gladly give information on capacities, pressures, speeds, performance, etc., of the different types and sizes of pumps, and make recommendations based on your needs.

**FAIRBANKS-MORSE**  
**PUMPS · MOTORS · DIESEL ENGINES**

# When You Specify **MIDWEST** You're Certain



The New Graybar Building  
Sloan & Robertson,  
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Clyde R. Place,  
Engineer  
Baker, Smith & Co.,  
Heating and Ventilat-  
ing Contractors

## Midwest Is the Leading Air Filter In New York

Most buildings in New York that have air filters are equipped with Midwest installations, and practically every mechanically ventilated building now being constructed in the city will be supplied with clean air through Midwest Air Filters. The Midwest-equipped buildings shown to the left are only two of those now in the course of construction, or recently completed, in New York. Among the others are:

Drake Hotel,  
R. Candela, Architect.

Keith's 86th Street Theatre,  
Thos. W. Lamb, Architect.

New York University,  
W. S. Gregory,, Architect.

Royal Insurance Building,  
Starrett & Van Vleck, Architects.

Columbia-Presbyterian Medical Center,  
Jas. Gamble Rogers, Architect.

The New Madison Square  
Garden  
Thos. W. Lamb, Architect  
E. G. Woolfolk,  
Engineering Contractor

The Manger Hotel,  
H. Craig Severance, Architect.

The New Delmonico Building,  
H. Craig Severance, Architect.

Elks' Lodge No. 22, Brooklyn,  
McKim, Mead & White, Architects.

Schrafft's Fifth Avenue Building,  
C. E. Birge, Architect.

F. W. French Building,

Ask Dept. A F for Certified Performance  
Reports of Midwest Installations

**MIDWEST AIR FILTERS**  
INCORPORATED  
BRADFORD, PENNSYLVANIA  
Offices in Principal Cities

NO LOSS TO ANY INVESTOR IN 53 YEARS

## FOR MEN WHO PLAN NEW BUILDINGS

THE F. H. Smith Company, which has given 53 years of satisfactory service to first mortgage borrowers and investors, and which specializes in underwriting first mortgage construction bond issues, offers to men who plan new buildings the means to complete them.

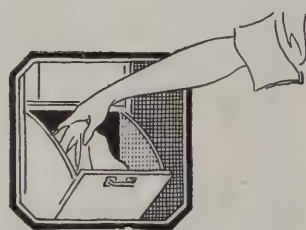
The Smith Plan assures prompt disbursements on architects' certificates as construction progresses. It provides both construction and permanent financing at one time, and thus there is no uncertainty about the renewal of short-term loans.

If you are planning the erection of an income-producing building that requires first mortgage financing of \$200,000 to \$1,000,000 or more, we shall be glad to have you communicate with us.

**The F. H. SMITH Co.**

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NEW YORK PHILADELPHIA PITTSBURGH BOSTON BUFFALO ALBANY MINNEAPOLIS



The Quickest, Most Sanitary and  
Most Economical Waste Disposal  
System to Be Had

Specify a  
**GODER Incinerator**

There's a GODER Incinerator for every size and type of building. Simple, efficient and economical. Can be installed in either OLD or NEW buildings. The patented, exclusive Step Grate Design insures highest possible incineration efficiency and lowest operating cost.

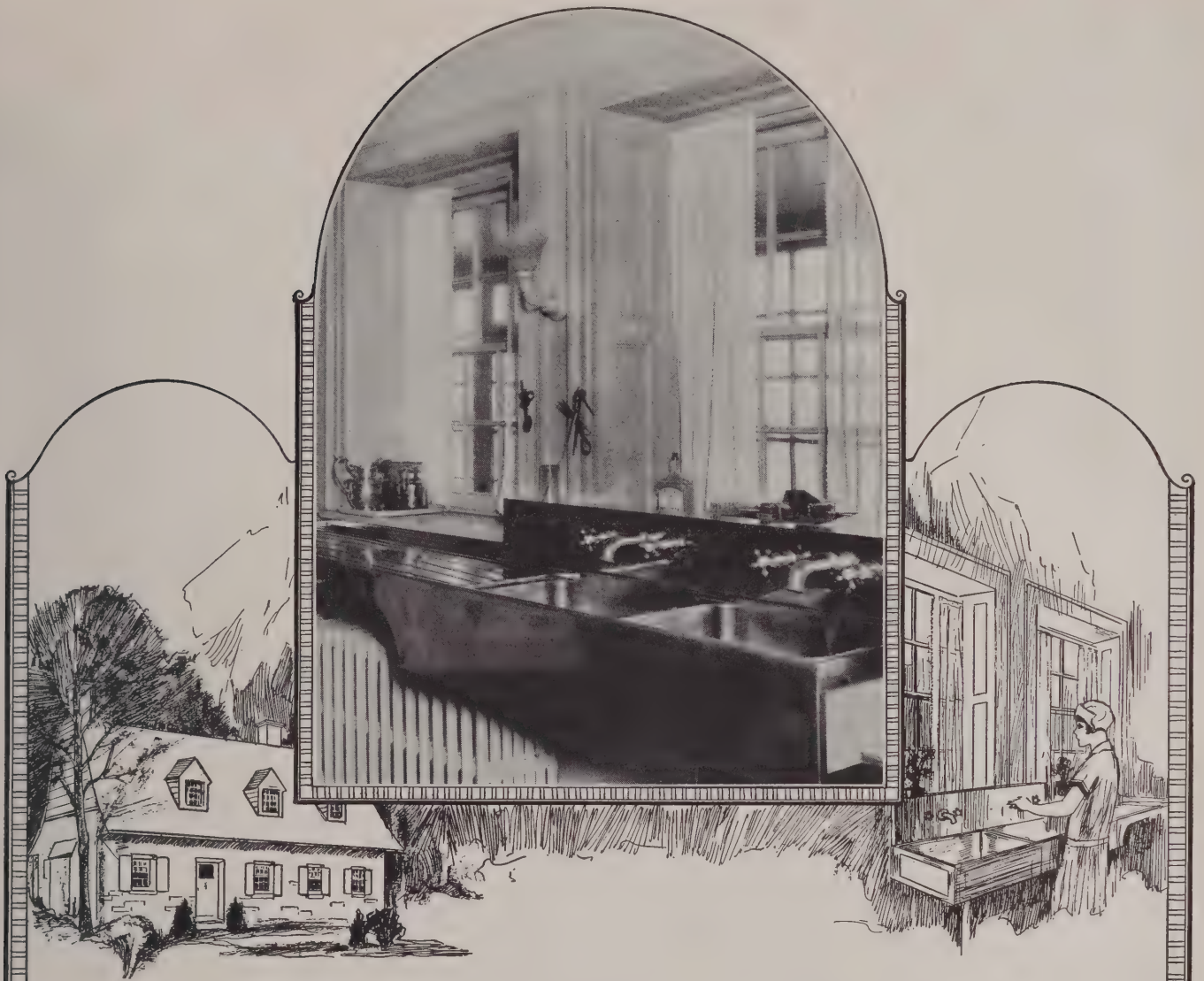
Our Folder Fits Your File 35-J-41  
Sent FREE to Architects

**GODER INCINERATOR CORP.**

319 North Michigan Avenue  
**CHICAGO**







## Insuring Permanent Attractiveness *in the finest of modern homes*

**H**ERE is proof that sinks can be beautiful. In years gone by, the average sink was unpleasant to look at because of the materials of which it was made. But now-a-days, because it can be made of Monel Metal, a sink may become a thing of silvery beauty—actually, an ornament to any kitchen.

Here is pictured a typical Monel Metal sink. It not only looks clean and

attractive now—it will retain that cleanly attractiveness.

For Monel Metal always looks new and bright. It is easily cleaned, durable and strong, rust-proof and corrosion-resisting.

The kitchen is only one place where Monel Metal may be used to advantage. Let us give you complete information about Monel Metal so that your data files may be complete.

SEND FOR "LIST B" OF MONEL METAL AND NICKEL LITERATURE

Monel Metal is a technically controlled Nickel-Copper alloy of high nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.



# Monel

# metal



THE INTERNATIONAL NICKEL COMPANY, 67 WALL STREET, NEW YORK CITY





*Venetian Swimming Pool, Coral Gables, Fla.*

## Swimming Pool Chlorination Is The Most Satisfactory Method Of Disinfection



*W & T Chlorinator Type  
MSP, Particularly Appli-  
cable for Swimming Pool  
Sterilization*

“FROM all available information the addition of chlorine . . . . by the use of proper apparatus, is today the most satisfactory method of pool disinfection”—so states the report of the Joint Committee of State Sanitary Engineers and American Public Health Association after five years careful study.—And the report goes on to tell why—because of the residual sterilizing action of chlorine.

Higher endorsement could not be had.

We will be glad to send a copy of this report on request.

Liquid chlorine and W & T apparatus sterilizes over five billion gallons of drinking water every day.

“SWIM IN DRINKING WATER”

“The only safe water is a sterilized water”



### WALLACE & TIERNAN

COMPANY, INCORPORATED

*Manufacturers of Chlorine Control Apparatus*

NEWARK NEW JERSEY



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LOS ANGELES SEATTLE ST. LOUIS BUFFALO HARRISBURGH INDIANAPOLIS DETROIT  
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# Standard Conveyors Help to Sell Machinery, Tools and Shop Supplies

It will be admitted that prompt service to customers does make and hold them.

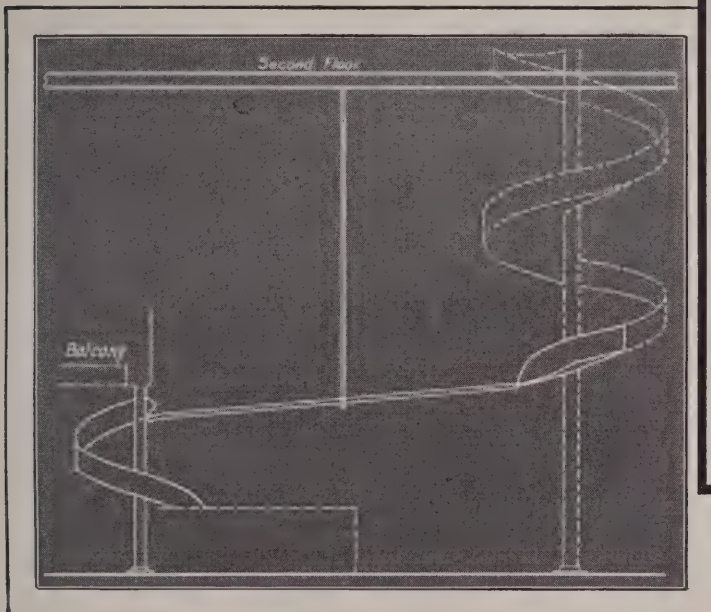
A little better discount from list, a neater package, and various other details serve to impress the customer with the high standard of the firm he buys from.

Here is shown a Standard Spiral Chute working for C. A. Strelinger, Detroit, Michigan, dealers in machinery, tools and shop supplies. There is no power used, save gravity, to operate it. Strelingers, therefore, can divide this saving with their customers. No elevator operator is needed to bring merchandise down to the shipping or delivery department. Strelingers can divide this saving with their customers.

Standard Spirals do help sell machinery, tools, and shop supplies. They also help sell hardware, automobiles, wholesale groceries, newspapers, coal, and a myriad of other things that are in bundles, packages, boxes or loose. What about your client? Gravity is the cheapest power known! Why not see if he has a place for it? An analysis of the Strelinger job will be sent on request to any architect who is interested.

There is no delay in filling an order. Repair parts, tools, or supplies that are located somewhere above come promptly and directly to the exact spot when and where wanted. Strelingers can offer this service to their customers.

The man on floor three who fills orders, keeps stock and has charge of Dept. A or D receives an order, fills it—puts it on the spiral and forgets it. At the other end of the spiral it is taken off and despatched by mail, express, truck, or freight without loss of time. Neither the man at the top of the spiral nor the one at the bottom has lost a bit of time by waiting, walking unnecessarily, or passing the time of day with the elevator man. This bit of prompt attention Strelingers can offer their customers.



Standard Gravity Roller Conveying Systems are especially adapted to solving conveying conditions in machine shops and plants. We would like to tell you about some of the conveying problems solved with Standard Roller Conveying Systems.

## STANDARD CONVEYOR COMPANY, NORTH SAINT PAUL, MINN.



New York Office, 405 Lexington Avenue  
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Cable Address: Gravity



## "From Edison's Plant"

### Edison Portland Cement Co.

THOMAS A. EDISON  
EDISON PORTLAND CEMENT CO.  
CHARLES ED. EDISON  
HARRY T. EDISON

469 FIFTH AVE., N.Y. CITY  
AT 407 ST.

September 23, 1926.

Mr. George B. Hopper,  
President,  
Van Guilder System,  
15 East 40th Street,  
New York City, N.Y.

Dear Mr. Hopper:-

I am glad indeed to advise you of the success that we had in using Van Guilder double wall forms in the construction of the change-house at our Cement Mill, New Village, N.J.

This building is one story, 40 ft. by 90 ft. by 12 ft. high, concrete building, built for the purpose of providing the workmen with lockers, shower-baths, toilets, etc., and was constructed by our men without any previous experience in using your forms. Each of the double walls are 6" thick, having the usual air space of 2 1/2" and the roof was poured with concrete using metal forms, and covered with tar and tar-paper.

The cost of building the walls, as far as I can determine, was approximately two-thirds the cost of constructing monolithic concrete by our own forces. The windows and doors were framed and cast right into the wall as it was being poured, and we find that the building is exceedingly cool in summer time, and while we have not yet used it in winter, we believe it will be very easily heated.

Our management at the mill like the method of construction so well that practically all of our wall construction in the future for buildings and curtain walls, will be done with your forms.

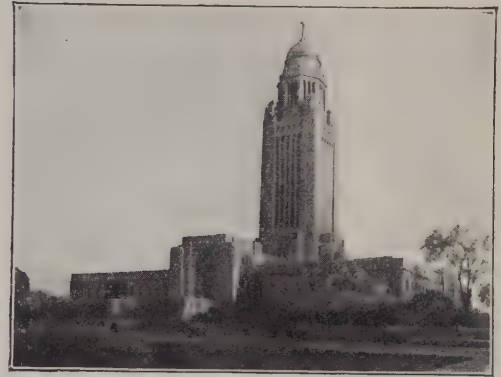
The writer also built a two car garage for himself at his home in South Orange, 20 x 20 ft. inside walls being 10 ft. high and having walls 3" thick. This work was done by two Italian boys who have had some little experience in concrete work, but they had no difficulty whatever in putting up the walls in about 4 days without other help, again casting the windows and doors into the wall as they proceeded. The interior of the garage has been covered with a coat of cement and sand and the outside is stuccoed, and altogether, it is a beautiful as well as a solid job.

The cost to me was a little over half the cost quoted by contractors for concrete construction, and I certainly can recommend this type of construction.

Very truly yours,

*W. J. Edson*  
VICE PRESIDENT AND  
GENERAL MANAGER.

## Capital Cleaning for a State Capitol



STATE CAPITOL OF NEBRASKA

Architects: Bertram Grosvenor Goodhue Associates

Since the capitol of a great state is built but once, it is absolutely necessary that it embody every detail of the latest and most advanced equipment. Because of this, the architect of the Nebraska State Capitol specified The Spencer Central Cleaning System, already installed and in successful operation in public buildings of every sort—in Independence Hall; the State Capitols of Connecticut, Utah, Missouri, Texas, Oklahoma and others; Hospitals, Libraries, Municipal Buildings, Hotels, Theatres, Churches, Large Residences, Schools, Office Buildings, Department Stores;—in structures of every possible type where it is necessary that absolute cleanliness be maintained by use of apparatus which is strong, reliable, noiseless and economical, qualities among others belonging to The Spencer Central Cleaning System.

## Read This Expert's Opinion On Wallbuilder Construction

Double, monolithic, concrete walls are answering the architect's demand for integral insulation. They are providing the most practical insulating medium known—a 2 1/2" continuous air space—at a cost no greater than that of ordinary masonry construction. Furring, lathing and scratch coat plaster are eliminated, so thoroughly damp-proof are these walls.

### Van Guilder System Concrete Building 17 East 40th Street New York



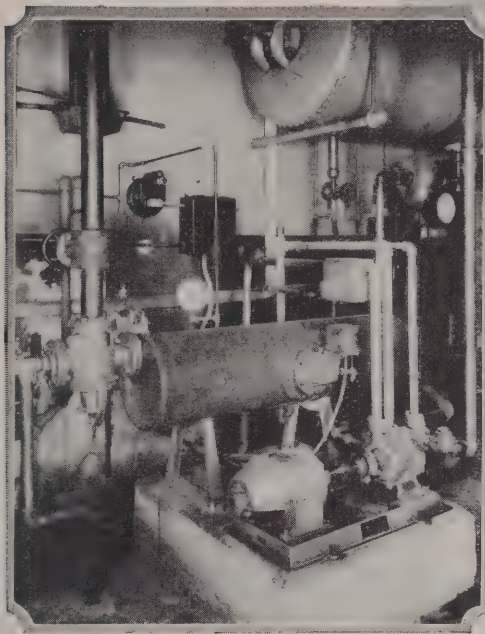
The Van Guilder Wallbuilder shown in place on walls is filled with semi-wet concrete and tamped. Lever indicated by arrow is then lifted, which collapses the center core and expands the outside plates, thereby freeing the concrete on all sides. The wallbuilder is then instantly slid forward.

See Our Page in  
the Fall Edition of  
Sweet's Catalogue

*The*  
**Spencer Turbine Company**  
Hartford, Conn.

**SPENCER**  
CENTRAL  
CLEANING  
SYSTEMS





Above: The well-known Stroh Building in Detroit. At left: View of the motor-driven Jennings Pump and Returns Tank on the return line of the heating system.

## Jennings in Stroh Building, Detroit

In the Stroh Building, Detroit, as in most other fine office buildings in the country, a Jennings Vacuum Heating Pump is depended on for removing the condensation and air from the return line heating system.

For the exacting service customarily encountered in buildings of this character, Jennings Pumps are a logical choice. They give to the

heating system a flexibility which makes it capable of delivering the heat where and when it is wanted. Jennings-equipped systems start up quickly in the morning. They can supply heat to the farthest radiator as easily as to the one nearest the boiler.

Bulletins, prices and recommendations on request.

NASH ENGINEERING COMPANY

SO. NORWALK



CONNECTICUT

Branch Sales Offices: Atlanta, Birmingham, Boston, Buffalo, Chattanooga, Chicago, Cleveland, Dallas, Denver, Detroit, Indianapolis, Kansas City, Memphis, Miami, Minneapolis, New Orleans, New York, Omaha, Philadelphia, Pittsburgh, Portland, Richmond, St. Louis, Salt Lake City, San Francisco, Seattle, Tampa, Washington. In Canada: Montreal, Toronto and Vancouver. European Offices: London, England, Norman Engineering Co.; Brussels, Belgium and Amsterdam, Holland, Louis Reijnders & Co.; Oslo, Norway, and Stockholm, Sweden, Lorentzen & Wettre.

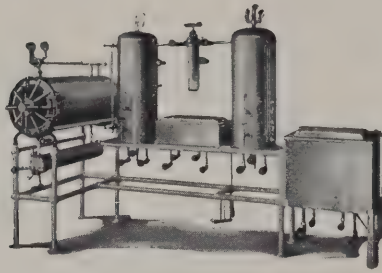
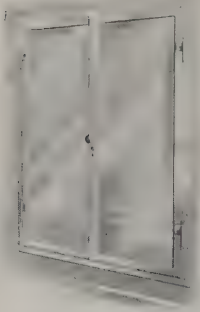
# Jennings Pumps

RETURN LINE AND AIR LINE VACUUM PUMPS

CONDENSATION AND CIRCULATING

PUMPS

## Visualize a STERILIZING Room Free From Hissing Steam



More than 100 Hospitals have been equipped completely with SUPER-KNY PRESSURE STERILIZING APPARATUS and RECESSED CABINETS during the past year.

THERE IS A REASON.

More than thirty-five years of satisfactory service has earned for our apparatus a reputation for unexcelled supremacy.

The Super-Kny Automatic Controls for the Electric Current, High Pressure Steam lines and gas, make possible the Sterilizing Room free from hissing steam and vapor.

Our EJECTORS eliminate the necessity for a vapor vent to roof.

Catalogues and Roughing-in cheerfully furnished gratis. A. I. A. No. 35-K.



For 1926-1927  
Vol. 3.

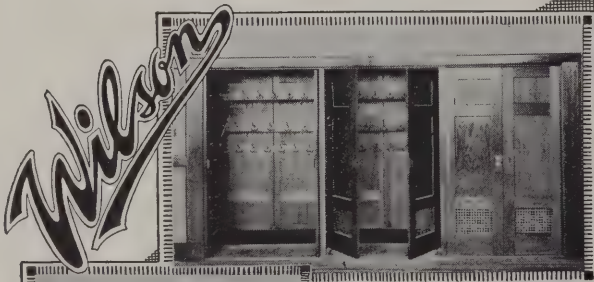
# The KNY-SCHEERER Corp.

OF AMERICA

*America's largest Manufacturer of Hospital Equipment*

119-125 Seventh Avenue (Dept. 30)

New York, N. Y.



Wilson Hygienic Wardrobes, with disappearing doors, in St. Paul's School, Providence, R. I. A. J. Murphy, Arch. Note ventilating grilles in doors.



The same type wardrobe with rolling fronts. Note that they are always under the teacher's eye. These particular wardrobes are built in convenient recess in wall.

These savers of space  
will appeal to  
your sound judgment

MANY newly built schools have entirely omitted separate cloakrooms and depend solely on Wilson Hygienic Wardrobes. Others have abandoned the out of sight, poorly ventilated cloak rooms and now use the Hygienic Wardrobe because of the space saved.

One that is perfectly ventilated and sanitary and that can be enlarged when necessary.

If one of you would like to talk wardrobes one of us would like to talk with you. Or we will send you catalog No. 3.

1876—FIFTY YEARS IN BUSINESS—1926

The J. G. WILSON Corporation  
11 East 38th Street, New York City  
Offices in all Principal Cities





# VITROLITE

PETER

IN THE WORLD'S LARGEST OFFICE BUILDING  
STALLS AND WAINSCOTING IN ALL WASHROOMS OF THE  
GRAYBAR BUILDING A MASTERPIECE IN MODERN  
ARCHITECTURE ARE OF

VITROLITE  
THE MODERN SANI-  
TARY SLAB MATERIAL

SLOAN &  
ROBERTSON  
ARCHITECTS

WRITE FOR  
BOOKLET  
SHOWING NEW  
VITROLITE  
TOILET  
CONSTRUCTION



133 W. WASHINGTON ST.  
CHICAGO

## THE VITROLITE COMPANY

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TORONTO

Like a bit of Normandy  
is DUBOIS ~ ~ so quaint,  
so picturesque

THE architect of this lovely home on the New Jersey coast has carried out the thought and feeling of the original Norman type clear through to service wing and garage. To have used an ordinary fence for screening purposes would have introduced an incongruous note. So he chose Dubois, the charming and very practical fence that has been used for centuries in France, and got privacy and authenticity.

*Dubois is made of straight, live, chestnut saplings, woven closely together. Comes in two heights, 4ft. 11in. and 6ft. 6in. Easy to erect.*

## DUBOIS Woven Wood Fence

*Imported from France solely by*

ROBERT C. REEVES CO., 187 Water Street, New York



Robert C. Reeves Company, 187 Water Street, New York  
Please send your free portfolio showing practical applications of Dubois and illustrating how it fits in with any architectural type.

Firm \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
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## Cottages, Farmhouses and Other Minor Buildings

In England of the 16th, 17th and 18th Centuries

By LOUIS CONRAD ROSENBERG

OF ALL the architectural types, that most appropriate for American domestic use is often thought to be that of the old English cottage or farmhouse. It can be easily developed in materials of almost every kind; it possesses wide flexibility as to scale, and the character of its fenestration provides the ample wall spaces which many designers highly value for their architectural effect. Its interior is readily developed to provide the rambling type of plan which is popular for country or suburban domestic buildings, and all in all, the English farmhouse or cottage answers every demand made by the modern home builder in the search for a practical type.



THIS important work presents half-tone illustrations from photographs or sketches of more than 100 English country houses of the cottage or farmhouse types, chiefly in the Cotswolds and in Sussex, Suffolk and Kent. It deals with the work of three centuries and illustrates buildings of several widely different kinds of old English domestic architecture, built of wood, plaster, stone, brick, or combinations of all these.

There are also given countless detailed working drawings of doorways; oriel windows; gables; chimneys, singly or grouped in stacks; decorated plaster; half-timber work; fireplaces and cornices. A book invaluable to the architect.

102 pages, 10 x 13 1/2 inches.

Bound in cloth. Price \$15.

ROGERS & MANSON COMPANY

383 Madison Avenue, New York



Alden Park Manor, Philadelphia.  
Kenneth M. de Vos Co., Builders.



Alden Park Manor, Brookline,  
Mass. Harold Field Kellogg,  
Architect; Kenneth M. de Vos  
Co., Builders.



Kenneth M. de Vos & Company  
Missachusetts Avenue & School House Lane  
Philadelphia, Pa.  
Designers and Builders  
Alden Park Manors

Dec.  
23rd  
1925

Kerner Incinerator Co.,  
641 E. Water Street,  
Milwaukee, Wisconsin.

Gentlemen:

You will be interested to know that for the incinerator equipment for the disposal of all garbage and waste on our Alden Park Manor, (consisting of approximately 250 house-keeping apartments) at Brookline, Mass., we used your Kernerator.

The operation of your equipment on our above buildings has proven so satisfactory and sanitary that we have adopted its use on our Alden Park Manor Building operation, which is nearing completion here in Germantown, Philadelphia, (which consists of approximately 300 housekeeping apartments).

In addition to the actual satisfaction from your equipment in operation, we likewise have appreciated the type of co-operation your organization has given us, both in personal service, and the placing of your equipment on the job when required.

Yours very truly,  
KENNETH M. de VOS & CO.

By



## The Garbage Problem is settled forever in ALDEN Park Manors

THE Alden Park Manors of Brookline, Mass., and Philadelphia, Pa., are noteworthy contributions to American apartment house architecture. Every detail of interior finish and equipment is in keeping with the best modern practice.

The garbage nuisance was banished once and for all—and a big step taken thereby in assuring tenant satisfaction. The sanitary, convenient Kernerator was installed to displace foul smelling, inconvenient garbage cans.

### No operating expense

All waste is dropped into handy hopper doors on floors above and falls to the brick combustion chamber in the basement. An occasional lighting (a match does it) ignites the air-dried accumulation. No gas, coal or other fuel is necessary.

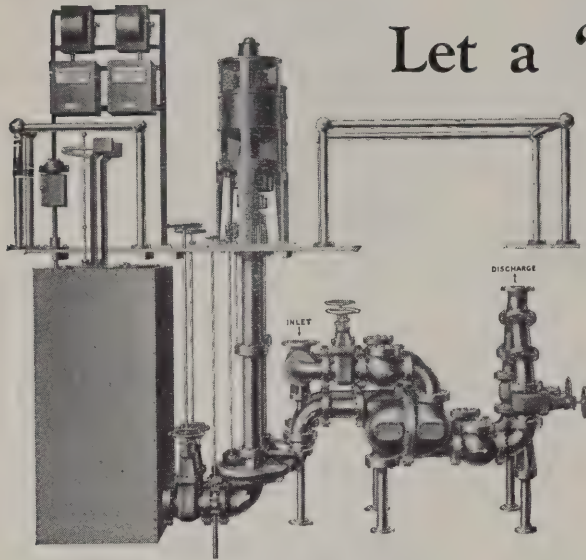
All new homes and apartment buildings deserve this modern time-tried convenience. Your clients will welcome the suggestion.

For detailed information see Sweet's Twenty-First Edition, Pages C3054-C3055. Or phone your local Kernerator representative. Offices in sixty cities.

KERNER INCINERATOR COMPANY  
715 EAST WATER ST. MILWAUKEE, WIS.

**KERNERATOR**  
THE CHIMNEY-FED INCINERATOR

*Garbage and Waste Disposal  
without Leaving the Kitchen.*



Patented and Patents Pending

## Let a "Chicago Flush-Kleen" Do That Disagreeable Task

The distasteful task of cleaning a strainer basket on a Sewage Ejector is no longer necessary.

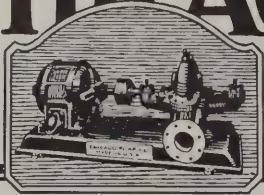
Illustration shows the Chicago "Flush-Kleen" Dry Basin Sewage Ejector unit. The "Flush-Kleen" entirely eliminates the old-fashioned strainer basket.

*Let our Bulletin No. 126 tell you more about this splendid new unit based upon the "Flow-Reversal" method.*

"Flush-Kleen" Dry Basin Sewage Ejectors are now giving satisfaction in the Saenger Theatre, New Orleans; The Rome School, Rome, New York; and the Merchants and Manufacturers Building, New York City. Simplicity in construction of the "Flush-Kleen" strainer has been proven in the above installations where not a moment's trouble has been experienced.

*Ask for Bulletin 126—Gladly furnished upon request*

# CHICAGO PUMP COMPANY



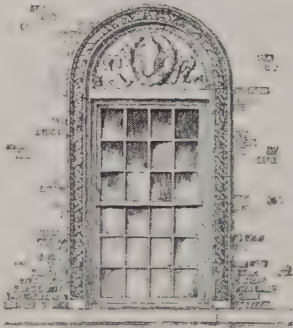
SEWAGE-CONDENSATION-CIRCULATING  
BILGE-FIRE-HOUSE-VACUUM

OFFICE AND WORKS: 2316 WOLFRAM STREET

::

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CHICAGO, ILLINOIS

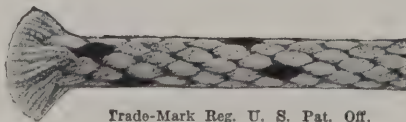


## Italian Origin, with the convenience of double-hung sash

Windows must be useful. The utility of double-hung sash depends upon the quality of the sash cord.

Architects are meeting this requirement by specifying

**SAMSON SPOT SASH CORD**



Trade-Mark Reg. U. S. Pat. Off.

**SAMSON CORDAGE WORKS**

88 BROAD STREET



BOSTON, MASS.



Holeproof Hosiery Bldg., Milwaukee, Wisconsin  
Federal Engineering Co., Architects  
Dalhman Construction Co., Contractors

**The Saving Is HERE**



**MATERIALS** for factory buildings are usually selected on basis of economy. Where any wood flooring is used, Bull Dog Clips reduce the cost of upkeep as well as the cost of construction. Three thousand clips are in use in the building shown here to anchor wood floors over concrete.

Write for samples, installation charts and cost data to complete your files.

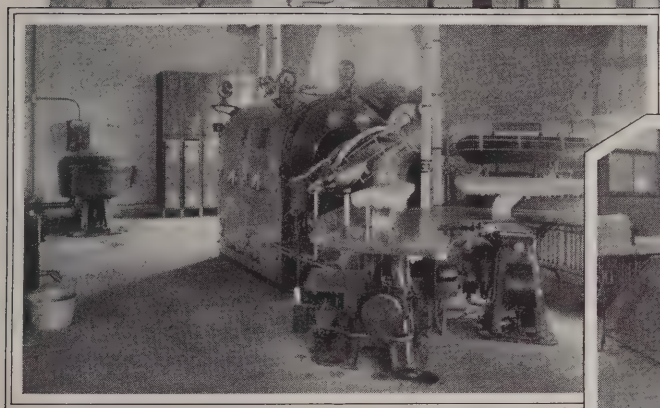
**Bull Dog Floor Clip Co.**  
108 North First Ave.,  
Winterset, Iowa, U. S. A.  
Distributors in principal cities

**BULL DOG Floor Clips**  
ANCHOR WOOD FLOORS TO CONCRETE

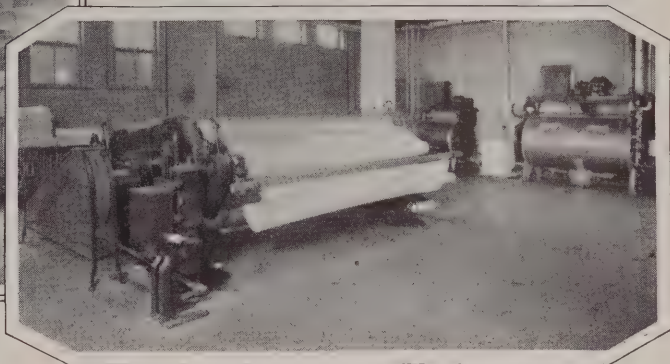


No. 27 of a series of advertisements featuring prominent laundry installations

The New St. Rita School for the Deaf,  
Lockland, Ohio. J. F. Scheblessy, Cincinnati, Architect.



(Left to right) American Underdriven Extractor,  
Automatic Thermo-Vento Dryer and Prim Presses



American 6-Roll Flat Work Ironer and Cascade Washer

# In the new St. Rita School for the Deaf

ABOVE is another example of a satisfied user of "American" laundry equipment—another institution to add to our long list.

Regularly in the laundry of the St. Rita School you'll find great bundles of bedding, linens, and clothes being washed spotlessly clean in the American Cascade Washer, dried in the Automatic Thermo-Vento, and ironed on the Prim Presses or the 6-Roll Flat Work Ironer.

And because this work is quickly handled, fewer sheets, fewer linens, and fewer clothes are needed. Always a ready supply on hand, for all the laundry of the institution is done in the institution.

The St. Rita laundry was entirely designed and installed by "American" engineers.

If you have a laundry problem, we shall be glad to give you the benefit of our wide experience. Just drop us a post card, and we'll do the worrying.

## At Your Service . . . a corps of laundry specialists

The American Laundry Machinery Company maintains a corps of engineers who have gained wide experience in planning and equipping most of the country's hotel, commercial, and institutional laundries. If you have any questions pertaining to modern laundry practice, you will find consultation with these specialists advantageous. This service is gladly offered you without any obligation whatever.

## THE AMERICAN LAUNDRY MACHINERY COMPANY

Norwood Station, Cincinnati, Ohio

THE CANADIAN LAUNDRY MACHINERY CO., LTD.  
47-93 Sterling Road, Toronto 3, Ont., Canada

Agents: BRITISH-AMERICAN LAUNDRY MACHINERY CO., LTD.  
Underhill St., Camden Town, London, N.W. 1, England



*Insuring Accurate Thickness  
And Uniform Level  
With Fewer Hands*

**K**ALMAN Screed Chairs make striking off concrete slabs a fast, accurate, and easy job.

The chairs open to specified slab thickness and are quickly set at proper intervals on the forms. Then the leveling pipes are laid across them. After the concrete is poured the job is finished by pulling the screed boards across the leveling pipes.

The resulting slab is of specified thickness and uniform level throughout. The leveling pipes are easily withdrawn without displacing any of the concrete. And the Kalman Screed Chairs stay in. There is no time lost—no unnecessary labor—no unnecessary costs.

It will be easier to see for yourself how Kalman Screed Chairs can insure accurate thickness and uniform level with fewer hands. Just mail us your name and address. We will send you a sample without obligating you in any way.

KALMAN STEEL COMPANY, 1462 Wrigley Bldg., Chicago

# KALMAN STEEL

#### FOR BUILDINGS

Corrugated Bars  
Column Spirals  
Slab Spacers  
Beam Bolsters  
High Chairs  
Screed Chairs  
Sleeper Anchors  
Inserts  
Removable Steel Tile  
Permanent Steel Tile  
Column Forms  
Wire Fabric  
Metal Lath

#### FOR ROADS

Corrugated Bars  
Wire Fabric  
Bar Supports  
Center Strip  
Expansion Joint

#### Plants or Offices at

Chicago New York Cleveland Buffalo Detroit Boston Baltimore  
Pittsburgh Syracuse Milwaukee Philadelphia St. Louis St. Paul  
Kansas City Columbus Atlanta Dayton Minneapolis Youngstown





Laying the Clinton Welded Fabric used in the Park Central Apartment Hotel, 56th Street and 7th Avenue, New York City

## STRENGTH AND ECONOMY FROM CLINTON WELDED FABRIC

CLINTON Welded Fabric will contribute to the strength and permanence of Langner & Baer's beautiful 31 story Park Central Apartment Hotel being erected at 56th Street and 7th Avenue, New York City.

The Melrose Concrete Co., that laid the flooring, know that both economy and strength would result from the use of Clinton Welded Fabric. And this is why:

It comes in rolls of sufficient length to be laid quickly and accurately in *unbroken strips* through all spans of the building from one side to the other. No laborious and costly respacing of loose members is necessary.

The intersections are electrically welded in a union as strong or stronger than the original wire. There are no clips, loops or twistings to interfere with the even flow of the concrete. Each group of wires is in line with the principal stresses and a homogeneous unit of tremendous strength results.

The Wickwire Spencer Steel Company itself mines the ore and makes the steel from which it manufactures Clinton Welded Fabric. High quality is safeguarded at every step.

Send for our catalog containing useful information.

WICKWIRE SPENCER STEEL COMPANY  
41 East Forty-second Street      ✎      New York City



# WICKWIRE SPENCER PRODUCTS





## SAVOY HOTEL

*Under Construction in Detroit*

*Owners*

R. L. SPITZLEY and PAUL KAMPER

*Architect, LOUIS KAMPER*

*Associate Architect, PAUL KAMPER*

*Plumbing Jobbers, MURRAY W. SALES CO.*

*Plumbing Contractors*

R. L. SPITZLEY HEATING CO.

*Being equipped throughout with the*

## Watrous Flush Valve

THE Watrous Flush Valve promotes correct sanitation and prevents water waste by delivering the exact quantity of water required by the bowl with which it is used. A thorough flush is assured without expending more water than is necessary. The regulating port which determines the flow is very easy to adjust, and is prevented from clogging by automatic, self-cleansing mechanism which clears itself of foreign matter in the water whenever a flush takes place.

When the Watrous Flush Valve is installed in combination with the Watrous Duojet Closet, the water-saving is much augmented, as the latter requires only a very limited supply of water for a thorough flush and refill. Also, its design avoids the danger of clogging.

*Write for full details on the  
Watrous Flush Valve and Duojet Closets to*

### PLUMBING DIVISION

Watrous Flush Valves—Duojet Closets—Self-Closing Basin Clocks—Combination Lavatory Fixtures—Pop-Up Wastes—Liquid Soap Fixtures—etc.

## THE IMPERIAL BRASS MFG. CO.

1238 West Harrison Street

Chicago

### BRANCH SALES OFFICES

H. D. Tuck, 404 Marquette Bldg., Detroit, Mich.

W. E. Blair, Jr., care Coronado Hotel, St. Louis, Mo.

R. J. Shank, 724 Grand Ave., Des Moines, Ia.

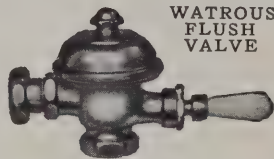
Continental Sales Co., 924 Metropolitan Life Bldg., Minneapolis, Minn.

Charles S. Anderson, 6614 Minne Lusa Ave., Omaha, Neb.

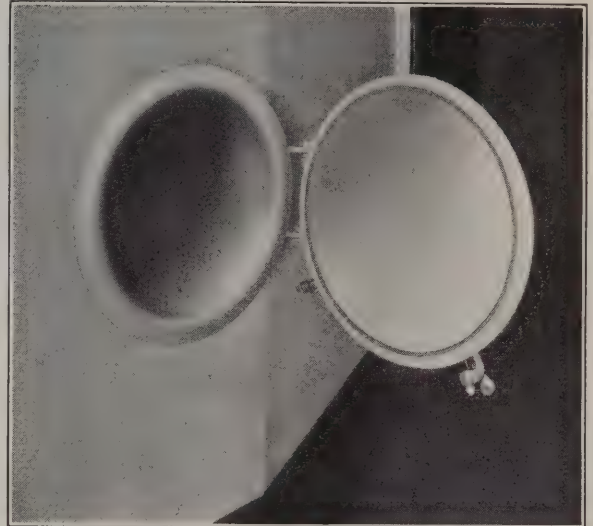
Wm. P. Horn Co., 237 Rialto Bldg., San Francisco, Cal.

L. C. Coombs, Rm. 506, 110 W. 11th St., Los Angeles, Cal.

Wm. P. Horn Co., L. C. Smith Bldg., Seattle, Wash.



WATROUS  
FLUSH  
VALVE



## ANNOUNCING THE PFAUDLER ALUMINUM LAUNDRY CHUTE

- ☐ Supplementing the glass-lined laundry chute and the steel dust chute, The Pfaudler Company now offers an Aluminum Chute that will meet every financial consideration.
- ☐ Built under the same careful supervision you are assured the same high quality workmanship. This chute is constructed of 1/16" aluminum shell with 3/8" throat cylindrically rolled and riveted with countersunk aluminum rivets. Flanged ends are joined by aluminum bolts, securely packed with "Pfaudlerite" gaskets, which makes a watertight connection.
- ☐ To provide additional strength and durability a glass-lined steel elbow is furnished for the bottom of the chute that will withstand the severest jolts caused by falling linen.

*Detailed specifications furnished  
upon request*

THE PFAUDLER COMPANY  
Laundry Chute Division, ROCHESTER, N. Y.



# PFAUDLER

glass lined



# "MOPPING and MOVING" or CHEMISTRY?

OFFICE HOURS:  
8:00 TO 9:30 A.M.  
3:00 TO 4:15 P.M.

MCKINLEY HIGH SCHOOL  
J. L. G. POTTORF, PRINCIPAL  
CANTON, OHIO

ASSISTANT PRINCIPAL  
H. W. BENEDICT  
DEAN OF GIRLS  
HELEN J. LOONIS

February 12, 1926.

The Duriron Company,  
Dayton, Ohio.  
Gentlemen:

We very much appreciate your letter of February 9th, and the way you have cooperated with us. The literature will be of a great deal of value to the department.

It isn't necessary to remind us that we have Duriron traps and fittings in our laboratory desks. Before we had them about a third of my time was spent in calling the janitor to mop up the floor and moving my students to desks that did not leak. For the last two years, while I have had the Duriron, there has been no trouble, and we are not looking forward to any. It is a great relief.

My custodian for which you asked is Mr. Carl E. Bow. I'm not nearly the bother to him, now that we have Duriron, that I used to be.

Sincerely,  
*Leota B. Clarke*  
MCKINLEY HIGH SCHOOL  
Chemistry Department.

MCKINLEY  
HIGH SCHOOL  
CANTON · OHIO.



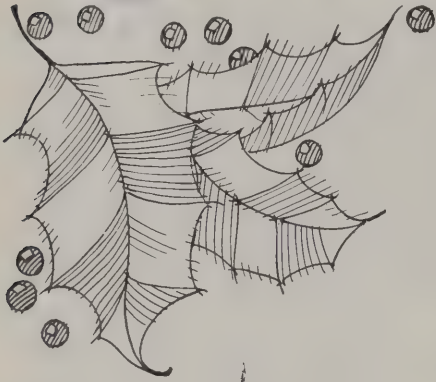
A new argument for Duriron acid-proof  
drain pipe and laboratory equipment ~  
*It increases teaching efficiency!*

The **DURIRON** COMPANY  
DAYTON · OHIO



# Shera

ASPELLERIZED STEEL PIPE SHERARDIZED



## Christmas

MAY IT BE THE HAPPIEST  
YOU AND YOURS HAVE  
EVER KNOWN AND MAY  
THE COMING YEAR BRING  
ABUNDANT PROSPERITY~



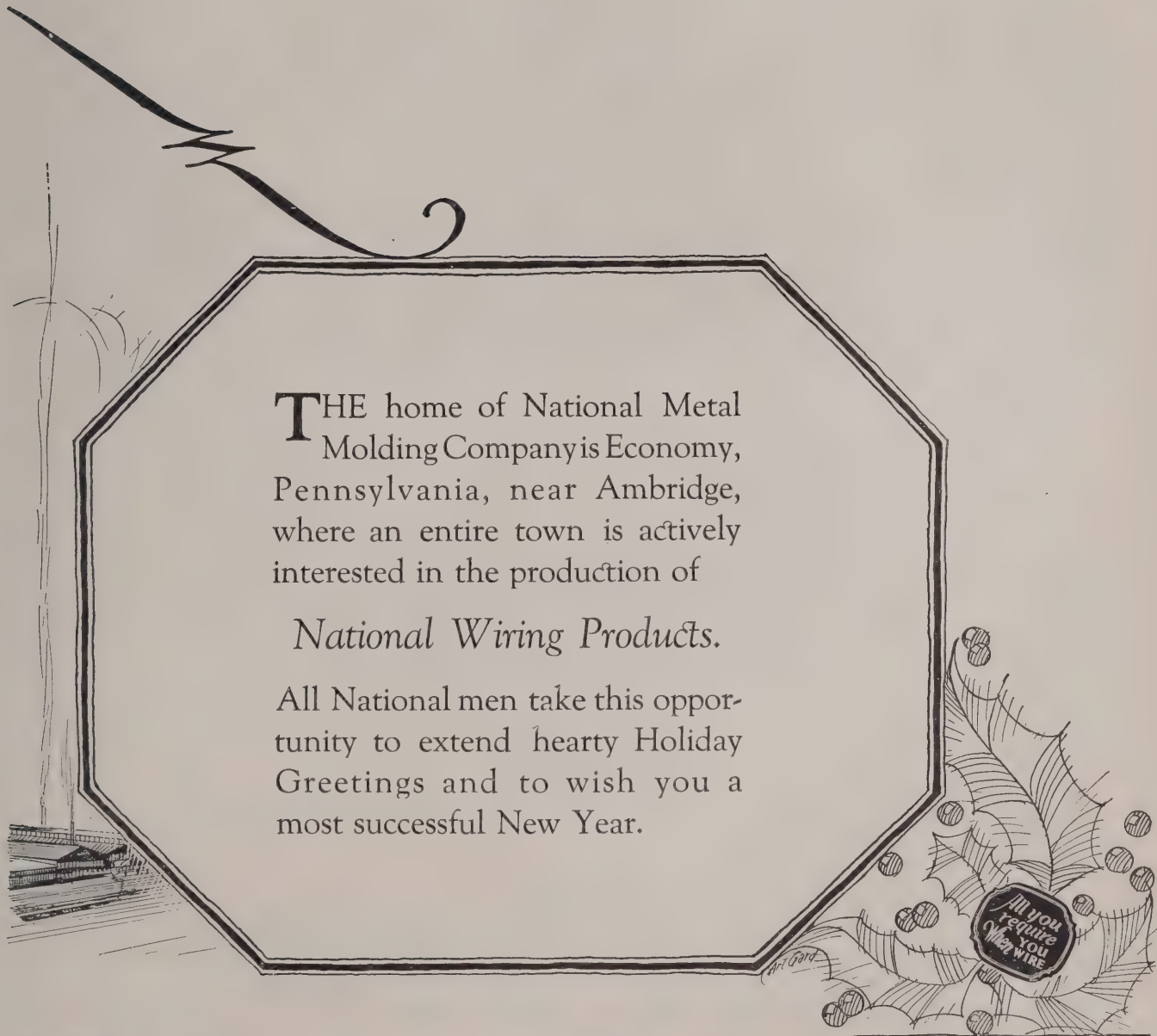
# National Metal

*The National Wiring System* ~ FOR SAFETY *and* PERMANENCE ~



# duct

AND ENAMELED FOR SAFE PERMANENT WIRING



THE home of National Metal Molding Company is Economy, Pennsylvania, near Ambridge, where an entire town is actively interested in the production of

*National Wiring Products.*

All National men take this opportunity to extend hearty Holiday Greetings and to wish you a most successful New Year.

# Molding Company

1101 Fulton Building PITTSBURGH - PA.

# *A wise Investment-A well placed Trust!*

*Community and Memorial Buildings*



NATIONAL

**W**HAT structures require better equipment than buildings such as these—built, as they were, to serve for years and years as monuments to civic interest and civic pride?

Far famed architects and engineers, schooled in the selection of quality equipment, specified only dependable materials—for civic pride and the necessity of endurance allowed little opportunity for the consideration of any other factor than quality of the highest degree. These masters of their art specified “NATIONAL” Pipe along with the other dependable equipment—because they considered it a wise investment—a well placed trust.

To those interested in the advantages and use of “NATIONAL” Pipe in fine buildings, we offer Bulletin No. 25—“NATIONAL” Pipe in Large Buildings.

**NATIONAL TUBE COMPANY, PITTSBURGH, PA.**  
*District Sales Offices in The Larger Cities*



# How Reuben N. Trane's Vision Revolutionized Heating



Reuben N. Trane  
President  
The Trane Company



*—the story of today's outstanding success in the heating industry*

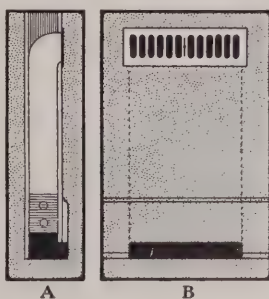
Less than a year ago, the announcement by Reuben N. Trane of a new type of heating unit, created a sensation in the heating field. The trade was waiting for this achievement and quickly responded. Over 1200 orders poured in almost over night—before a single sample had been sent out.

The overwhelming success of Trane Heat Cabinets is founded

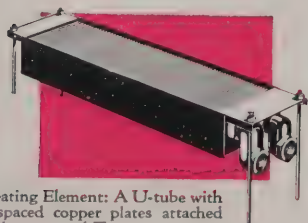
on simple principles, known to all heating men and now applied by Reuben N. Trane in a practical way to produce better, quicker heating and more beautiful rooms.

Write today, let us send complete information regarding this revolutionary change in heating methods.

THE TRANE COMPANY  
ESTABLISHED 1885  
LA CROSSE WISCONSIN



(A) Cross section view of Trane Heat Cabinet as installed in the wall. Air inlet and heating element at bottom, air outlet at top.  
(B) Front view of the finished installation. Only the inlet and outlet are visible. Dotted lines indicate position of Cabinet in the wall.



The Heating Element: A U-tube with closely spaced copper plates attached by the patented Trane process.

TRANE  
HEAT CABINETS  
*Successors to the Radiator*





Baker Building, Minneapolis, Minn. G. M. Orr, Mechanical Engineer. Larson & McLaren, Architects. Huston & Company, Heating Contractors.

## First Choice for the Big Heating Installations

The Baker Building, Minneapolis, is typical of large modern buildings in which Trane Bellows Traps and Trane Bellows Packless Valves are specified by leading architects and engineers. Here, 527 Trane Traps and 495 Trane Valves were used in the main building, together with 43 Trane Traps and 42 Trane Valves

in the garage shown at the left of the picture.

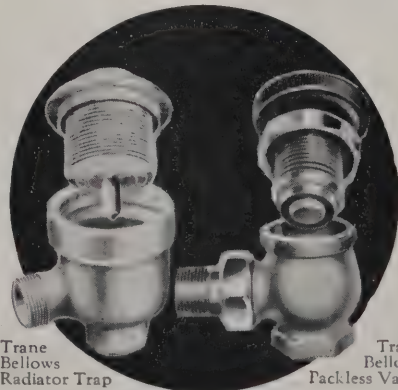
Long experience has taught the heating world that Trane equipment can be depended upon for continuous, efficient operation on the largest projects. A Trane job is right—or Trane makes it right. Every unit is fully guaranteed.

*Write for Bulletin 14.*

**THE TRANE COMPANY**, 220 Cameron Avenue, La Crosse, Wis., manufacturers of vapor and vacuum heating specialties, Heat Cabinets, and pumps. Branches and sales connections at New York, Chicago, Boston, Cincinnati, Newark, Philadelphia, Buffalo, Cleveland, Detroit, Seattle, Los Angeles, Albany Minneapolis, Greensboro, N. C., New Orleans, Kansas City, Mo., Zanesville, Ohio, Tampa, Fla., Baltimore, Md., Des Moines, Ia., New Haven, Conn., Sheboygan, Wis. In England: 22-23 Clerkenwell Close, London, E. C. 1. In Canada: The Trane Company, 23 River Street, Toronto, 2; Thomas Robertson & Company, 134 Craig Street, West, Montreal; F. S. Murdoch, 4 St. Elmo Block, Colony St., Winnipeg; In Japan: Mitsubishi Shoji Kaisha, Ltd., Thermal Supply Department, Tokyo. In China: C. J. Dougherty & Company, 30 Brenan Road, Shanghai.

# TRANE

## HEATING SPECIALTIES



Trane  
Bellows  
Radiator Trap

Trane  
Bellows  
Packless Valve





## What Makes a Good Swimming Pool?

A swimming pool may be beautifully designed and built. It may have all of the lure of blue water and sparkling white tile. But the real determining factor of its success is the water.

If the water in a pool is not properly sterilized, sickness and infections may result. And if it is sterilized with biting chemical germicides the users run the chance of smarting eyes and similar discomforts.

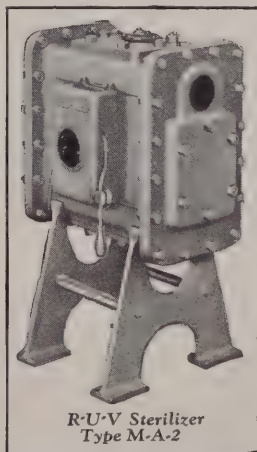
Here is a way to assure the success of the pools you design and also do away with the unpleasantness of biting chemicals: Specify R-U-V Ultra Violet Ray Sterilizers on the water inlets or recirculating systems.

By this method, powerful ultra violet rays, produced by quartz mercury vapor lamps,

penetrate each drop of water that enters the sterilizers — and instantly kill all harmful bacteria. In addition these rays set up a residual germicidal action that keeps water pure after it is in the pool.

And the R-U-V Sterilizer is easy to operate, because the action is practically automatic. There is no dosage to regulate. The bactericidal action is always positive and unavoidable. And the chemical composition isn't changed in the least.

If you are interested in providing such water for your pools—water that feels just like Nature intended it to feel and is pure enough to drink—write for our latest swimming pool booklet. It contains a number of illustrations and descriptions of typical R-U-V installations.

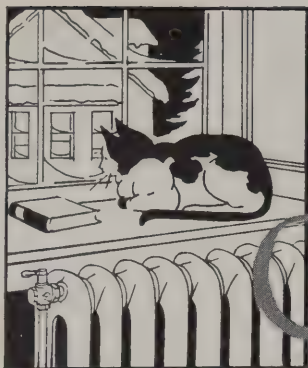


R-U-V Sterilizer  
Type M-A-2

The R. U. V. Co., Inc.  
383 Madison Ave.  
New York City

James B. Clow & Sons  
201-299 No. Talman Ave.  
Chicago, Ill.





# Jenkins Fig. 700 Modulating Valve

*Keeps good heating at its best*

A heating boiler may be of approved design, the piping layout correct, the radiation ample, but still the comfort and convenience to be derived from the system can be marred by an unreliable or poorly constructed valve.

The design of the Jenkins Fig. 700 Modulating Valve combines several features that aid in keeping good heating at its best.

It is a valve for low-pressure steam, vapor, and vacuum heating, differing from present-day modulating valves in principle of design, affording improvements that make it the most efficient valve for heating radiators.

These are some of its advantages:

Has a Jenkins Rubber Composition Disc and always seats perfectly; scale and core sand cannot lodge on seat, because the seat is vertical, not horizontal.

No water-hammer, gurgling, or shock, because steam entering radiator is not retarded by returning condensation.

Vacuum is under disc, not on top of it, with no loss of vacuum when valve is closed.

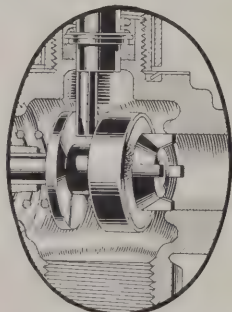
No hexagons, but beads or ribs instead which conform closely to grip of pipe wrench, thereby preventing marring of valve when it is being installed.

Special bonnet construction to prevent leakage around spindle.

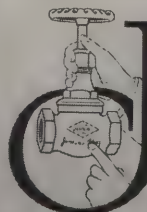
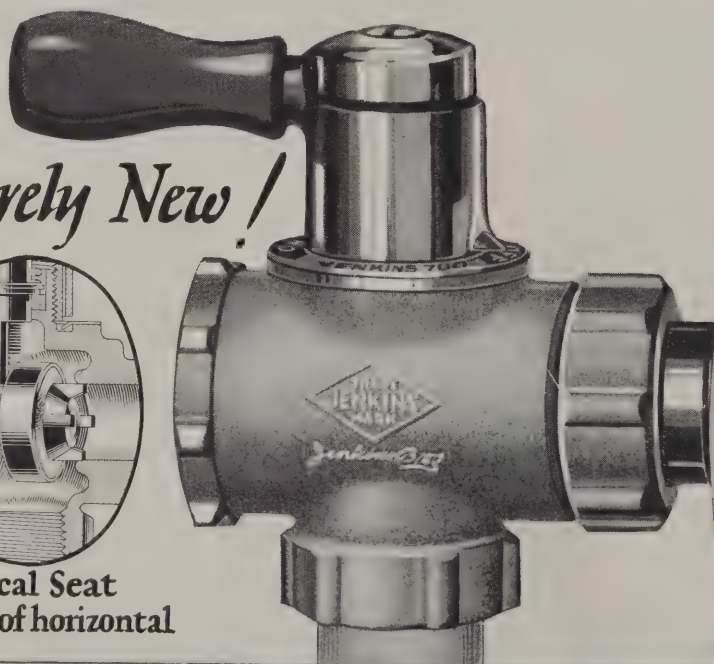
The valve is made of bronze, nickel plated.  $\frac{3}{4}$ -inch size, suitable for 100 square feet of radiation.

We shall be pleased to have a Jenkins Service Representative submit a sample for your inspection. You incur no obligation in making this request.

*Entirely New!*



**Vertical Seat  
instead of horizontal**



Always marked with the "Diamond"

# Jenkins Valves

SINCE 1864

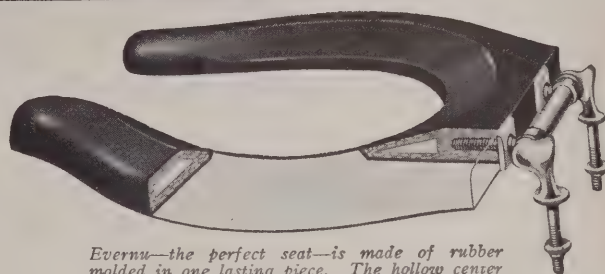
**JENKINS BROS.**  
 80 White St. . . . . New York, N. Y.  
 524 Atlantic Ave. . . Boston, Mass.  
 133 No. Seventh St. . Philadelphia, Pa.  
 646 Washington Blvd. Chicago, Ill.  
**JENKINS BROS., Limited**  
 Montreal, Can. . . . . London, Eng.





## Evernu Everlasting Hard Rubber Seats

A hinge that holds  
*forever!*



*Evernu—the perfect seat—is made of rubber molded in one lasting piece. The hollow center provides great strength with lightness. The nickel-plated, bar hinge, concealed type, is secured by heavy threaded lugs that will hold forever.*

Molded in one lasting piece, an Evernu Hard Rubber Seat will last forever—there's practically no wear-out to it.

But what of the hinge? That, too, will last forever without the slightest loosening of its vice-like grip. The pure hard rubber takes a steel-like thread. Even after a lifetime of service the hinge will be as firm as the day it was installed—will get tighter as the steel lugs “freeze” into rubber. This is a bar hinge of the concealed type and is extra heavy. A check is provided on seats without lids to prevent the seat from falling back against the valve, wall or tank. There is no metal on the top or bottom of the seat.

The regular equipment is nickel plated, cast brass. However, architects may, if they wish, specify white metal hinges. On all Evernu Hard Rubber Seats without a cover a check hinge is used unless otherwise specified.

The Evernu Guarantee is unconditional. The hard rubber is impervious to acids and cleansers and is unaffected by steam and low temperature. There is a model for every type of bowl.

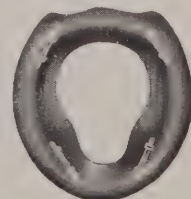
In public lavatories, where use and abuse are hardest, the Evernu is proving its greater durability and greater economy.

Write today for a catalog and cross section of an Evernu Seat.

When a wood seat is needed, specify

### NEVER-SPLIT

It is famous for the bolted construction that makes splitting, warping, and separation of joints impossible. The cross grain of the carefully seasoned oak and gum runs around the hole and withstands every strain. Each seat is hand-brushed and beautifully finished, and there is a model for every type of bowl.



### NEVER SPLIT SEAT COMPANY

Dept. 1212, Evansville, Indiana, U. S. A.

Founded 1905

THE LARGEST MANUFACTURERS OF TOILET SEATS IN THE WORLD!

FAUCETS · ARE · THE · VITAL · SPOTS · OF · PLUMBING

## *Santa* likes a quiet house

Santa cares about quiet on Christmas Eve. But the home owner and his family insist upon it the year 'round. Noisy plumbing is out of date. Leaking, gurgling, sleep-destroying faucets are taboo. Hundreds of modern-minded architects and builders specify Mueller Faucets, for they know that Muellers give the kind of service home owners desire. Sixty-nine years of quality manufacturing methods are behind Mueller dependability.

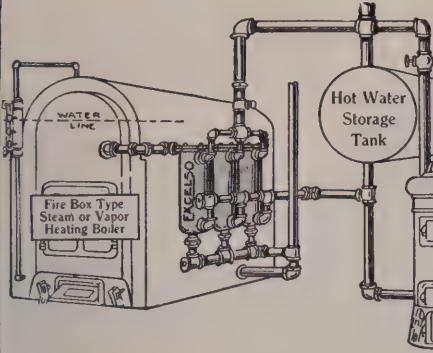
MUELLER CO. (Established 1857) *Factories:* Decatur, Illinois; Port Huron, Michigan; *Canadian Factory:* MUELLER, Limited, Sarnia; *Branches:* New York, San Francisco, Los Angeles

316

# MUELLER FAUCETS

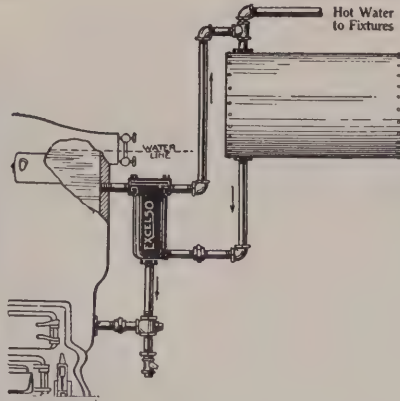
*faucets without a fault*





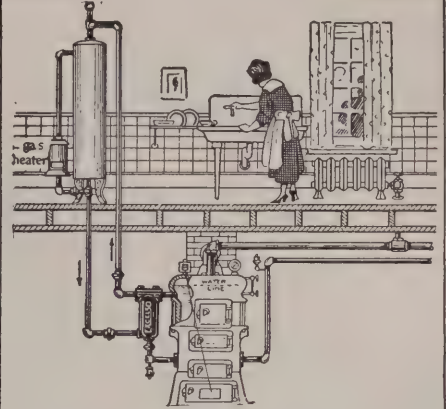
**Battery of Excelso Water Heaters Connected to Steel Type Heating Boiler**

Typical installation for large apartment houses and other larger types of buildings where large amounts of hot water are required



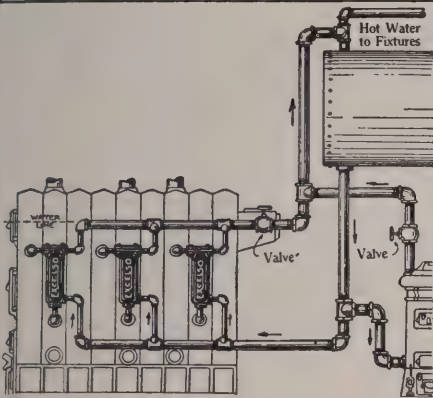
**Excelso Water Heater Connected to Square Type of Heating Boiler**

Storage tank can be installed in a horizontal or vertical position either in the basement or floor above



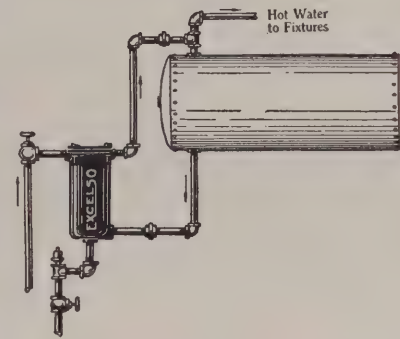
**Excelso Water Heater Connected to Heating Boiler in Basement with Storage Tank in Kitchen**

Gas heater shown for summer use. Storage tank may be placed in kitchen or basement, as preferred



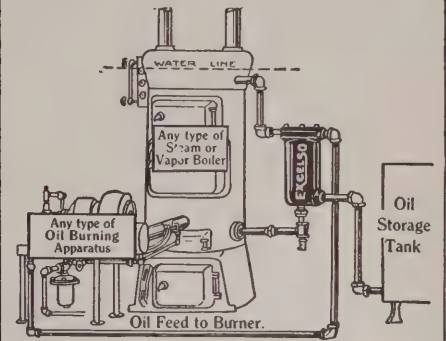
**Battery of Excelso Water Heaters Connected Up for Larger Requirements**

The Excelso Water Heaters are shown cross connected with coal water heater so that either or both may be used



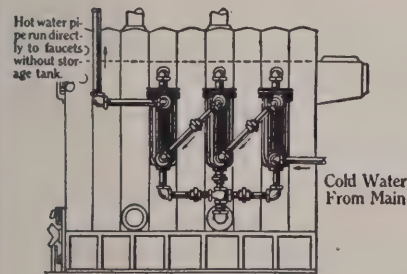
**Heating Water with Live Steam.**

The Excelso Water Heater is used very extensively for heating water and other liquids by means of steam either with or without thermostatic control. Connect steam into the shell and circulate water through the copper coil. Suitable for steam pressure up to 50 lb. Reducing valve is used where pressure is higher



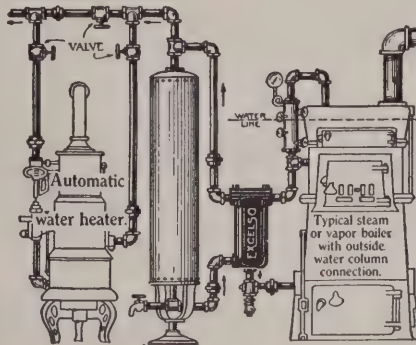
**Excelso Heater Used to Pre-heat Fuel Oil**

Typical installation for oil burning apparatus. Reduces carbon and noise, and assures better combustion



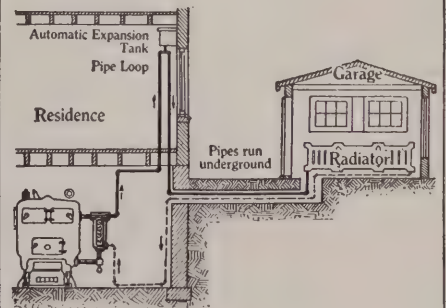
**Three No. 15 Excelso Water Heaters Connected in Series to Heating Boiler without Storage Tank**

This method affords instantaneous heating of domestic water without the use of a storage tank. Cold water passes through the coil of the first heater, then through the coil of the second heater and finally through the coil of the third heater



**Excelso Water Heater Cross Connected with an Automatic Gas Water Heater**

Gas heater for summer use; Excelso Water Heater for winter use



**Installation for Heating a Garage by Means of Hot Water from a Steam or Vapor Boiler Located in Residence**

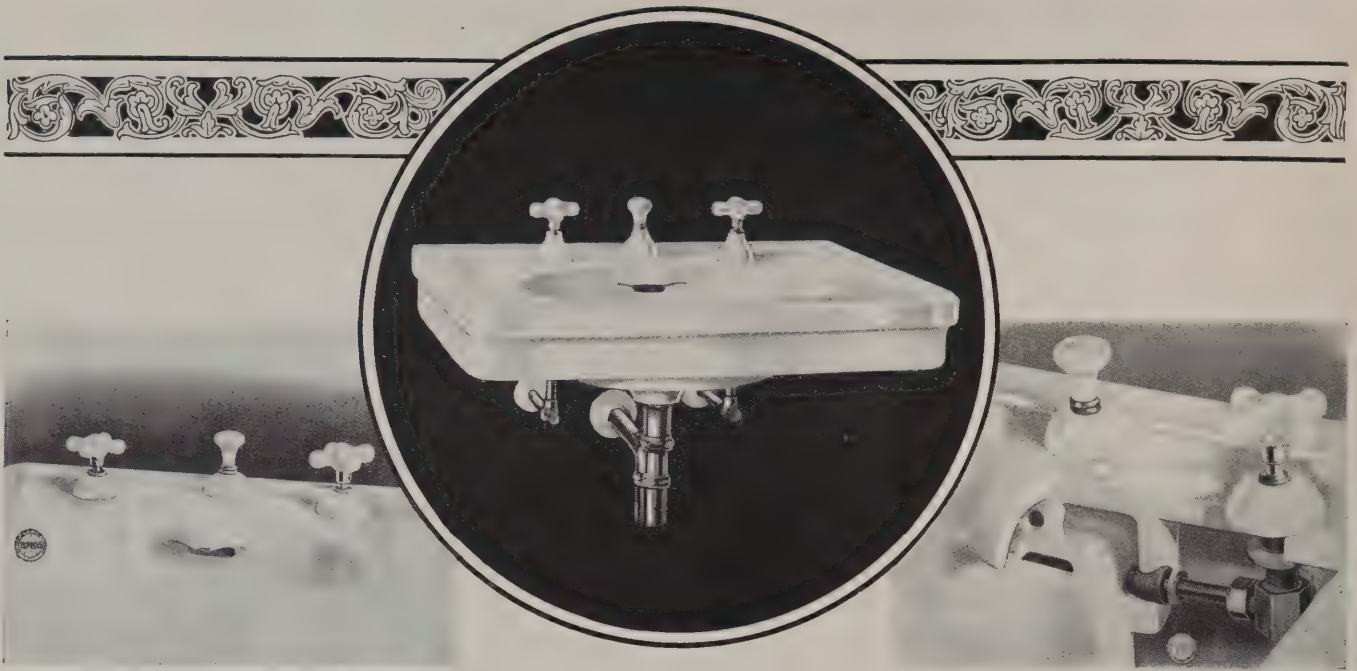
This method of heating a radiator in a garage or other place is very successful. Consult us on any special installation and send complete details

Typical  
Installations  
Tear this page out  
For Your File

**EXCELSON**  
WATER HEATERS

EXCELSON SPECIALTY  
WORKS, INC.

69 Clyde Ave., Buffalo, N. Y.



The "Te-pe-co" Integral China Mixing Chamber with the Single-stream Integral Nozzle eliminates exposed metal above the slab.

The water enters from both sides of the overflow into the Te-pe-co Integral China Mixing Chamber before discharging through the Integral Nozzle.

## TE-PE-CO Integral Supply Lavatory

**T**HE Te-pe-co Integral China Mixing Chamber with Single-stream Integral Nozzle is the most sanitary supply fixture that can be furnished. It makes it possible to wash in running water thoroughly tempered in the mixing. This Integral China Mixing Chamber is exclusively Te-pe-co. It is what makes our integral nozzle lavatory superior to others, since its construction checks the flow of water and thoroughly mixes hot and cold. The result is a splashless stream of water of ample volume and properly tempered.

Many of our country's finest hotels and other buildings have installed this type of Te-pe-co Lavatory along with our other All-Clay Plumbing Fixtures. Every natural, mechanical, chemical and financial resource available is utilized to build one unvarying quality—the best—into this Te-pe-co Ware.

### THE TRENTON POTTERIES COMPANY

Trenton, New Jersey, U.S.A.

New York

Boston

Philadelphia

San Francisco



Warwick Apt. Hotel  
Philadelphia  
Frank E. Hahn, Archt.



Rickley Memorial Hospital  
Springfield, Ohio  
Langdon-Hohly & Cram, Archts.



Drake Hotel  
Chicago, Ill.  
Marshall & Fox, Archts.



150 Pounds Pressure



## CRANE VALVES



2500 Pounds Pressure



*Paradise Theater, Crawford Avenue and West End Avenue, Chicago, Ill. Plumbing materials supplied by Crane. Architect, John Eberson, Chicago. General contractors, Lind Construction Co. Plumbing contractor, G. Albin Nilson. Heating contractors, W. S. Ray Manufacturing Co.*

## PLUMBING FOR THE LAND OF DREAMS

For millions of monotonous, work-filled, worry-ridden lives, the doors of the motion picture theater swing open into a land of no-matter-how-impossible dreams. Into the unfettered thrill of bold adventuring, the silken couches of languorous luxury, the soft music of love in spring, the elusive light of beauty, and the lure of far romance.

To create a setting worthy of the dream, architects who specialize in theater building, prosaically plan. An exterior promis-

ing unaccustomed delight; foyer, auditorium, and retiring rooms worthy of princess and hero on holiday; nothing anywhere dismaying the precious, fugitive illusion.

To such planning, Crane plumbing fixtures, valves and fittings have been found to be exceptionally well adapted. Graceful lines of fixtures fitting harmoniously into the decorative scheme; valves and fittings mechanically perfect and trouble free; leave no flaw to break the delicate thread.

# CRANE

*Address all inquiries to Crane Co., Chicago*

**GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO**

*Branches and Sales Offices in One Hundred and Fifty-five Cities*

*National Exhibit Rooms: Chicago, New York, Atlantic City, San Francisco and Montreal*

*Works: Chicago, Bridgeport, Birmingham, Chattanooga, Trenton, Montreal and St. John's, Que.*

**CRANE EXPORT CORPORATION: NEW YORK, SAN FRANCISCO, MEXICO CITY, HAVANA**

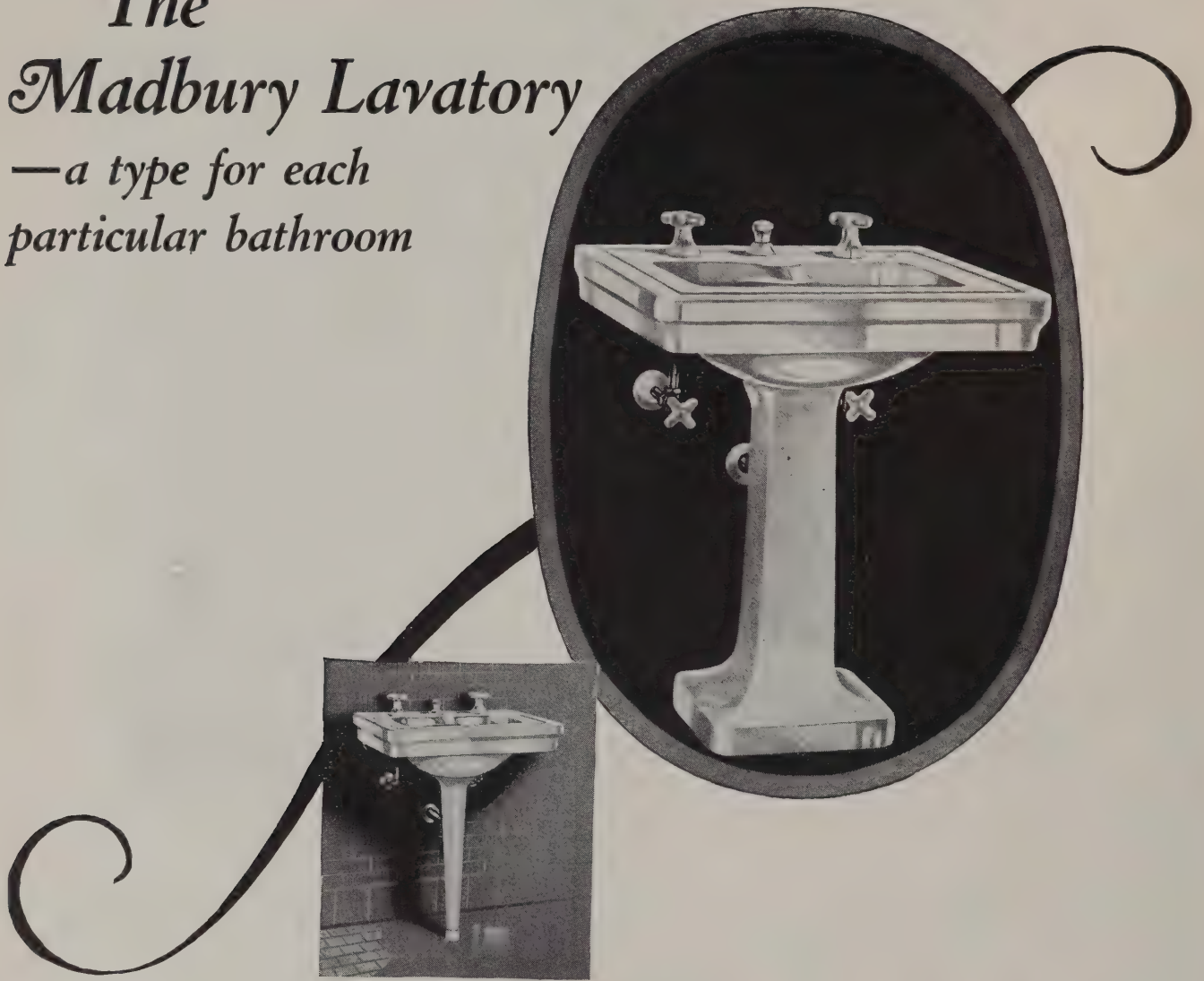
**CRANE LIMITED: CRANE BUILDING, 386 BEAVER HALL SQUARE, MONTREAL**

**CRANE-BENNETT, LTD., LONDON**

**C<sup>IE</sup> CRANE: PARIS, BRUSSELS**

# The Madbury Lavatory

—a type for each  
particular bathroom



THE Maddock "Madbury" Lavatory of Durock is the last word in beauty, convenience, cleanliness and durability.

The larger illustration shows the pedestal style; the smaller, the leg style. Both are identical in every detail except the method of support.

Because the leg style costs less to manufacture, it may be furnished at a somewhat lower price than the pedestal style; also it may be supplied, if desired, in a smaller size.

Both styles are made of all white Durock, including trimmings. Durock will not chip, crack, craze nor discolor.

The "Madbury" is the only lavatory made with a self-cleansing overflow, insuring complete sanitation. Hot and cold water, mixed to any desired temperature, is directed to the center of bowl in a single stream. There is a large square bowl with anti-splash rim.

Durock lavatories remain new indefinitely. They can always be kept spotlessly clean by merely wiping with a damp cloth.

Write us for as many copies as you can use of our booklet, "Maddock Bathrooms". They will help you "sell" clients on quality fixtures, and make them more appreciative of such fixtures when recommended. There will be no charge for the booklets.

THOMAS MADDOCK'S SONS COMPANY  
Oldest Sanitary Potters in America  
Trenton, N. J.

# MADDOCK

## DUROCK Bathroom Equipment

## DUROCK

*the perfect material for  
bathroom equipment*

is stain  
proof

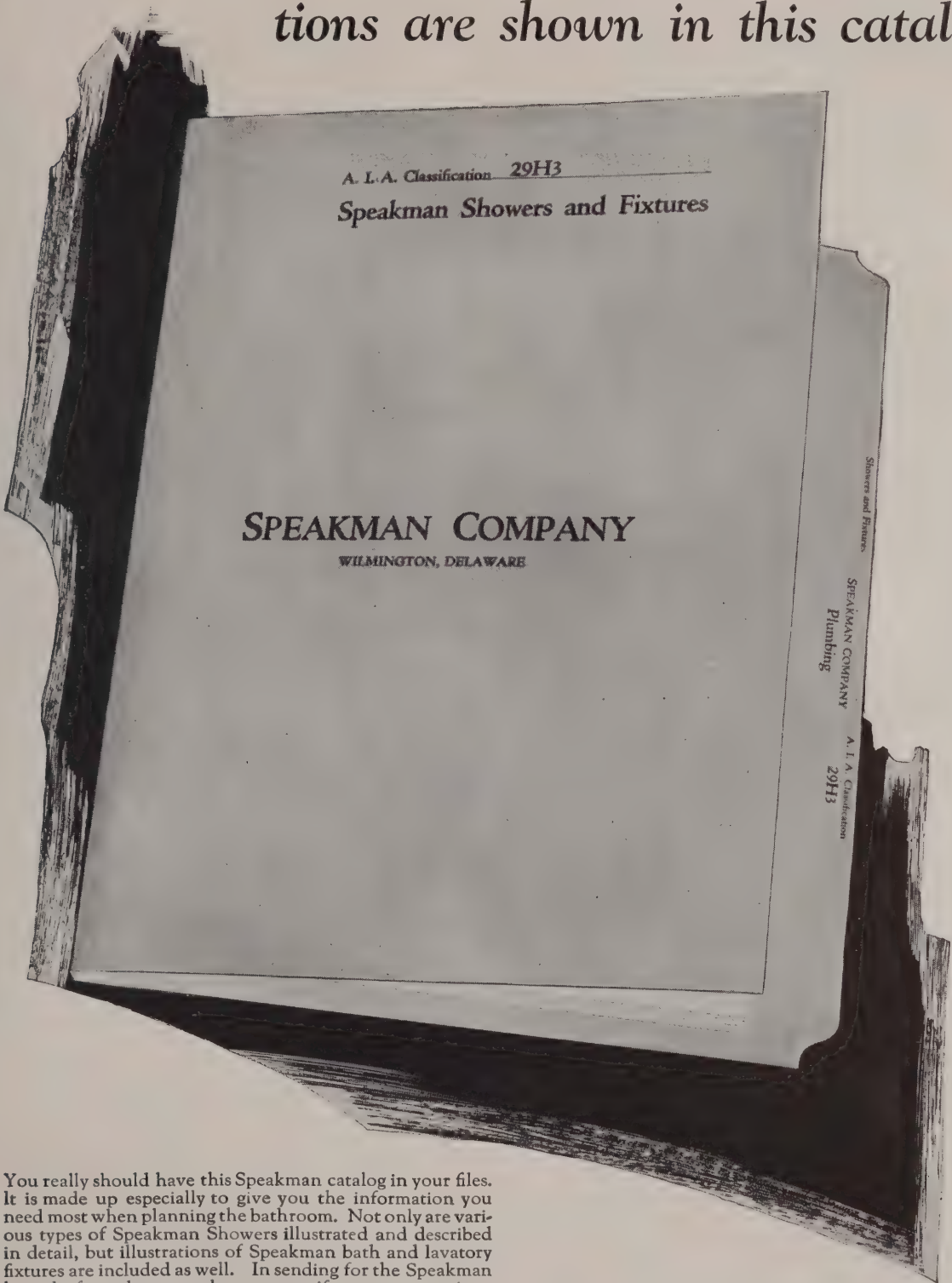


IODINE is often dropped on the lavatory basin. It will leave an indelible stain on ordinary coated ware but can be readily wiped off of a Durock lavatory.

Durock cannot be stained.



All details of various types of shower installations are shown in this catalog



You really should have this Speakman catalog in your files. It is made up especially to give you the information you need most when planning the bathroom. Not only are various types of Speakman Showers illustrated and described in detail, but illustrations of Speakman bath and lavatory fixtures are included as well. In sending for the Speakman loose-leaf catalog, use the coupon if more convenient.

SPEAKMAN COMPANY, Wilmington, Delaware

# SPEAKMAN SHOWERS and FIXTURES

SPEAKMAN COMPANY. Wilmington, Del.  
Please send me your catalog H in loose-leaf form; also reprint of your eleven pages in Sweet's Architectural Catalog, 1925-26 edition.

Name.....  
Address.....  
Firm.....

# Reviews of Manufacturers' Publications

**SANYMETAL PRODUCTS COMPANY, Cleveland.** "Sany-Metal Products." A manual on the advantages of their use.

Partitions, screens, etc., are necessary in countless instances to divide large floor areas into rooms or private offices, and in a somewhat different form to enclose toilets, shower baths and other utilities, particularly in manufacturing structures, schools, or in fact a building of any sort which is used by large numbers of people. This helpful brochure illustrates and describes a valuable line of metal partitions and screens designed for these purposes, and also the metal doors which are often used even when the partitions themselves are of slate or marble. The booklet explains by working drawings and diagrams the correct use of these partitions and doors and the many small parts or details which go with them to complete installation.

**BISHOPRIC MANUFACTURING CO., Cincinnati.** "Bishopric Sunfast Finish." A desirable coating, in color, for stucco.

In this folder data are given regarding "Bishopric Sunfast Finish," which is being widely used throughout America with good results. Used for the finishing coat of a new house or for renovating a structure already built, it gives the color which adds to the interest and attractiveness of any building. "Sunfast" is practical because it can be applied quickly over any exterior brick, cement, concrete or steel surface. It mixes readily and easily, spreads smoothly and forms a permanent coating. Dampness in the air serves to increase the setting and adhesive powers of "Sunfast," instead of retarding them as in the case of oil finishes. "Sunfast" is a permanent, dampproof coating of great bonding power. It comes as a dry powder in an air-tight metal drum, and is mixed only with water at the building site. This folder gives illustrations of many buildings stucco coated.

**WALLACE & TIERNAN CO., INC., Newark.** "Swim in Drinking Water." An important work on bathing pool building.

The owners of bathing pools have been quick to find that unless some means be used for purifying and keeping pure the water which fills them, a pool may easily become a menace to health instead of the aid to health which it should be. If each individual could have a pool for his sole use, with a constant inflowing stream of pure water, swimming pool purification would be unnecessary. But just as soon as a pool is used by others a health problem is created, for contamination from one bather pollutes the entire pool and comes in contact with every other bather. This brochure describes a method by means of which a pool may be kept filled with water as pure as that meant for drinking and absolutely sterilized by chloronization. The booklet describes the process and the mechanism employed, and the wide adoption of the method is attested by three closely printed pages giving names of institutions where it is used, such as clubs, Y. M. C. A. and Y. W. C. A. buildings.

**ZOURI DRAWN METALS CO., Chicago Heights, Ill.** "The Business of Buying a Store Front."

The immense improvement which has characterized the designing of shop fronts during the last few years is due, more than to anything else, to the wide use of steel in constructing them. The heavy and cumbersome wood mullions and muntins which were used until the advent of steel afforded but small opportunity for exercising that grace and finesse in design which, it is now found, are to be had without much effort when use is made of the slender (though extremely strong) members of steel which hold plate glass in the strictest alignment and at angles quite impossible when wood was used. This brochure is issued by a firm well known for its steel used in shop fronts. It gives illustrations of quite a number of excellent, well designed fronts of several types,—windows arranged in the usual, conventional way; windows deeply recessed, often so much so as to give a "corridor" effect; windows planned on the "island" principle, etc., and with each is given the plan required to make the illustration's meaning quite clear. This brochure should be had by every architect.

**BONDED FLOORS COMPANY, INC., New York.** "Distinctive Floors." A useful work on a highly important topic.

The richness and dignity of many interiors, particularly those of a more or less public nature, may be attributed very largely to their floors. Floors of wood often possess certain disadvantages, and people have even been known to object to the use of marble owing to its hardness and coldness. There is now available, however, a type of flooring which possesses all the architectural value and dignity of marble,—even presenting much the appearance of marble,—without marble's disadvantages. The claims of this admirable flooring material are presented in this and various other booklets issued by the Bonded Floors Co., Inc., these publications illustrating uses of the material which are sure to increase or extend their already wide use.

**WALLACE & TIERNAN CO., Inc., Newark.** "What Is Pure Water?" A booklet on purifying water for public use.

One extremely important detail of the work of public health departments has to do with preserving the purity of water supplies. Securing water for a large city is likely to involve far more of a problem than might be supposed. Few cities can draw their water from a fresh water lake, as is done by Chicago, and generally a vast area is required for the collecting of water, and the water when secured must be purified and treated by various processes before it is pumped by the water works into the homes where it is used. This brochure is one of a series issued by the Wallace & Tiernan Co., Inc. in which various phases of public health engineering are discussed. The booklet deals with the sterilization of water supplies, the disinfecting of sewage and the proper care of bathing pools, and the relation of all these to public health. The work is a valuable treatise on water supply.

**PORTLAND CEMENT ASSOCIATION, Chicago.** "A Book of Beautiful Homes." A work illustrating progress in design.

During the early days of the use of "concrete masonry" the complaint was often made that buildings so constructed were wanting in grace of design. They sometimes seemed to possess a certain awkwardness which was not found in structures built of other materials,—of brick or wood, for example. That this disadvantage has been overcome and that architects have learned to use the material is abundantly proved by the illustrations in this brochure devoted to building by these methods. It presents illustrations of houses, chiefly of small or medium sizes, from almost every section of the country, built of concrete block, building tile or concrete brick, given various interesting textures by the stucco applied to the concrete masonry walls. Many of these houses are extremely good, as to both design and plan, and with several of them (particularly with those most strongly marked as to style) there are given small illustrations of the textures used upon them for surfacing walls.

**CLINTON METALLIC PAINT CO., Clinton, N. Y.** "Something New in Stucco." The helpfulness of color in stucco.

This folder describes the widely known "Clinton Colors," specified by architects and used by builders and contractors since 1887. With them an almost unlimited variety of effects can be obtained in colored stucco, colors used singly or in various pleasing combinations. Their use involves no real difficulty or disappointments if specifications furnished by the manufacturers are followed with care. Color combinations harmonizing with various surroundings can be had all the way from tones of a soft and subdued warmth, appropriate for a home, up to rich and vivid hues suitable for use where the advertising value of striking novelty is sought. Irregularity and multi-colored effects in stucco work are becoming increasingly popular, evidenced by the large number of cases where the sweep of the trowel is emphasized and where its traces lend an added interest to the wall facing. Houses built in a Spanish type of architecture, theaters, pavilions, stores and other buildings, all provide interesting and practical subjects for the use of single or multi-colored stucco, as is being found in many parts of the country.





## *That important new fixture* ~the KOHLER ELECTRIC SINK

Not since Kohler introduced the "Viceroy" built-in bath have architects been given the opportunity to work with a new plumbing fixture so important in its possibilities as the Kohler Electric Sink.

Here is, at last, the *modern* sink, incorporating the perfected electrical

dishwasher. It is a fixture as beautiful as it is efficient—with a well-nigh irresistible aesthetic and practical appeal for every woman.

The Kohler Electric Sink is made in models suitable for all home and apartment installations. You are invited to write for full particulars.

KOHLER CO., *Founded* 1873, KOHLER, WIS.  
*Shipping Point, Sheboygan, Wis. • Branches in Principal Cities*

# KOHLER OF KOHLER

*Plumbing Fixtures*

## Reviews and Announcements

**LEHIGH PORTLAND CEMENT CO., Allentown, Pa., and Chicago. "Building Better Homes."**

The publications of the Lehigh Portland Cement Co. are useful and valuable to architects and builders largely because they deal in a practical way with the fundamentals of the use of concrete masonry. In this brochure there are reviewed some of the results of the competition held in the fall of 1925 for designs of moderate cost, fire-safe houses of Portland cement concrete masonry, the designs received being published in the booklet "Twenty-eight Better Homes." Four of the prize-winning designs have been actually built by the Lehigh Portland Cement Co., in New York, Chicago, Kansas City, and Birmingham, Ala., and the purpose in issuing this brochure is to illustrate to those interested the methods used in these instances and the excellent results obtained. The booklet is lavishly illustrated with views,—of the sites before the buildings were begun; views taken at different stages of building; views of the completed houses, showing their different elevations; and views also of the interiors, fully furnished. There are also given the specifications used for the houses, the quantities of materials used for at least one house, and the actual costs of the houses built in Chicago, Kansas City and Birmingham, all being useful data.

**RODDIS LUMBER AND VENEER CO., Marshfield, Wis. "Roddiss Doors for Hospitals." An important work on doors.**

Architects who build hospitals and convalescent homes know that doors for such buildings differ in certain respects from those used in structures of other types. This booklet is devoted to the "flush door," which had its beginnings in hospital uses. Disinfectants, scientific ventilation, proper dieting, clean and sanitary rooms, and other contributions to the betterment of public health and living conditions had their first employment by hospitals; so did flush doors. Although now used extensively in buildings of other natures, the flush door remains primarily a hospital door. The Roddis X-ray Door is a specialized contribution to hospital equipment. To the eye, the door has the same beauty of appearance as the standard Roddis door, but in the center of the door is placed a thick, continuous sheet of lead. This is bolted in place securely with lead-covered bolts. On the outside are the usual two layers of veneer, the surface veneer being finished as wanted. This X-ray door was designed by an architect of long experience in hospital designing, who desired to get away from the customary heavy, awkward and unsightly lead door used for X-ray rooms. It can be furnished in any desired size and finish, and with lead armament sufficient for any situation.

**CHICAGO PUMP CO., Chicago. "Flush-Kleen" Dry Basin Sewage Ejector." Bulletin No. 126.**

In this brochure there are explained and illustrated the most recent developments reached by this concern in its sewage ejector pumps. The booklet is devoted to the "Flush-Kleen," regarding which it says: "The strainer itself consists of a cast iron screen 18 inches in diameter. This screen is of 1-inch mesh and is enclosed in a special cast iron housing. The screen is of a different type than has been heretofore used on centrifugal ejectors, and it operates upon a unique principle. This principle is the reversal of flow of water through the screen. The strainer chamber is placed in the ejector pit between the inlet and the pump casing. This means that all sewage entering the wet basin must first pass through this strainer, then through the pump and into the basin. When the water rises in the wet basin to a predetermined height, the switch is closed. The pump starts and reverses the flow of water, pumping the water out of the wet basin, through the strainer and into the sewer. All solids and foreign matter collected by the screen are carried into the sewer by this outward flow of water. The velocity of the water flowing out of the pump and through the screen is great. It is from four, to five times the velocity of the water entering the wet basin."

**TODHUNTER, INC., 414 Madison Avenue, New York. "Franklin Stoves." Authentic reproductions of old examples.**

The building in practically every new house of at least one wood-burning fireplace and the extensive re-fitting for use of many old fireplaces which years ago were "bricked up" have brought a demand for a substitute when a fireplace does not exist. Happily an excellent substitute is not difficult to obtain, for the "Franklin stove," named after its inventor in 1742 and widely used during colonial and post-colonial times, is being well reproduced. It adds to the comfort and cheer given by an open fire the practical heating advantages of a stove, which of course gives to the room where it stands the heat which the actual fireplace would send up the chimney. This particular folder lists and illustrates a few of the fine Franklin stoves offered by this well known firm,—old examples carefully reproduced, together with the andirons, fire irons, etc., which go with them.

Harkness & Lockyer announce the opening of new offices for the practice of architecture at Gulfport, Miss.

C. L. Hutchisson announces his removal from 400 State Office Building to 209 Staples-Powell Building, Mobile.

Louis G. Lestremes, architect, Borden Block, Fall River, Mass., wishes to secure the services of a draftsman who has had five or six years' experience.

C. William Swanson would appreciate the catalogs and other publications issued by manufacturers, mailed to him at 21 High Street, Pawtucket, R. I., where he has opened an office for the practice of architecture.

The Builders' Association, Railway Exchange Annex, Kansas City, desires the catalogs and other publications issued by manufacturers of building materials. The Association maintains a service bureau for the use of architects, engineers, contractors, builders, and others interested.

Wanted: A man to call on the architects in the interests of a nationally known manufacturer of high quality enamels, wall coatings and varnishes. An acquaintance with architects and their problems and also an acquaintance with the materials used in building construction are required. Address, giving full particulars, Pratt & Lambert, Inc., 393 Freeman Avenue, Long Island City, N. Y.

The librarian of the Alabama Polytechnic Institute is anxious to secure copies of THE ARCHITECTURAL FORUM for December, 1925 and March, 1926, to complete his files. He would appreciate hearing from anyone having these copies for disposal. Communications should be addressed to Frederic Child Biggin, Head Professor of Architecture, Alabama Polytechnic Institute, Auburn, Ala.

**VAN RENSSELAER P. SAXE, C.E.**

*Consulting Engineer*

**STRUCTURAL STEEL  
CONCRETE CONSTRUCTION**

**Knickerbocker Building**

**Baltimore**





Photo by Leet Bros., Washington, D. C.

*Congressional Country Club, Washington, D. C.  
Contractor, M. Serretto, Washington, D. C.  
Architect, Philip M. Jullien, Washington, D. C.*

# Permanent!

The concrete floors of this Washington Country Club  
will never dust or wear

THERE will never be any dusty, worn-out concrete floors in the Congressional Country Club in Washington. Mr. M. Serretto, the Washington contractor, recently treated all the concrete floors in this building with Lapidolith. He knew that this floor hardener would *permanently* guarantee floors that are dustproof, waterproof, and wearproof.

Lapidolith is a liquid chemical. This compound can be applied as easily as water, and dries overnight. It is remarkable how quickly Lapidolith penetrates the porous cement, fills in the voids and binds the concrete particles

together. It changes even an old concrete floor surface into a dense, smooth structure that is as wear-resisting as granite.

Lapidolith has been used by leading architects and contractors for more than fifteen years. Lapidolith is used by the Campbell Soup Company, Fisher Body Company, Ford Motor Company, Standard Oil Companies, Swift and Company, Kresge Stores, McCrory Stores and many others that are equally well known. We will gladly send you samples and literature that will give you more complete information about this product.

## LAPIDOLITH

TRADE MARK

### Other Sonneborn Products

**CEMCOAT**—A paint that stays white longer than any similar paint; can be washed again and again; sticks to brick or concrete as easily as to wood; and usually requires one less coat. Made for both interiors and exteriors in white and colors, and in gloss, eggshell, or flat enamel finish.

**STORMTIGHT**—The famous semi-liquid compound for mending and preserving roofs. This thick, adhesive, rubberlike material can be applied by anyone, over any kind of roof, and it gives a tight new surface that lasts for years. Mends one leak or waterproofs an entire roof surface.

**HYDROCID**E—A complete line of water-proofing and damp-proofing products for walls, copings, foundations, etc. There is a special Hydrocide for each class of use. For instance, on exterior walls Hydrocide Colorless retains the natural beauty of the wall.

**LIGNOPHOL**—A preservative dressing for wood floors that penetrates and restores the natural oil and gum of the wood. Lignophol prevents rotting, drying out, and splintering; it is not sticky; it can easily be washed; and does away with ordinary floor oils.

Send for free sample of any of these products

## L. Sonneborn Sons, Inc.

114 Fifth Ave., New York City

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# "A Concern is known by the Companies it keeps"

## ILLINOIS ENGINEERING CO. Inter-Office Correspondence

Chicago, Nov. 1, 1926.

Gentlemen:

Among October sales, we note orders from or for the following Corporations:

American Can Co.,  
American Express Co.,  
American Shipbuilding Co.,  
American Fork and Hoe Co.,  
Armour & Company,  
Swift & Company,  
Standard Oil Co. of California,  
Standard Oil Co. of Ohio,  
Pure Oil Company,  
Sinclair Oil Company,  
Dupont Company,  
E. I. Dupont de Nemours Co.,  
Corn Products Refining Co.,  
National Biscuit Company,  
A. G. Spaulding & Bros.,  
National Lead Company,  
National Fireproofing Co.,  
Wurlitzer Company,  
Battle Creek Sanitarium,  
Libbey Glass Company,  
Barber Asphalt Company,  
New Jersey Zinc Company,  
Simonds Saw Company,  
Dodge Mfg. Company,  
Central Mfg. District,  
City of Cleveland,  
Cook County, Illinois,  
City and County San Francisco,  
Crane Company,  
Walworth Company,

Pacific Telephone and Telegraph Co.,  
General Fire Extinguisher Company,  
Rockwood Sprinkler Company,  
B. F. Sturtevant Company,  
Minnesota Steel Company,  
C. R. I & P. Ry.,  
I. C. R. R.,  
C. M. & St. P. R. R.,  
C. St. P. M. & O. Ry.,  
New York Central P. R.,  
Bessemer and Lake Erie R. R.,  
A. T. & S. F. Ry.,  
Reading R. R.,  
Pullman Company,  
Nash Motors,  
Packard Motor Car Company,  
Willard Storage Battery,  
Electric Storage Battery,  
Atwater Kent Company,  
Delco Light Company,  
Fisher Body Company,  
Great Western Power Co.,  
So. Indiana Gas and Electric Co.,  
No. Indiana Power Company,  
Commonwealth Edison Company,  
Interstate Power Co.,  
Va. Western Power Co.,  
New York Steam Co.,  
Ohio Edison Company,  
Florida East Coast Hotels Co.

This list made up from a single month's business, reads like a section of the New York Stock Exchange list, and it is very gratifying to know that the merit of our products is so generally recognized by such Corporations.

The above is tangible evidence of our unusual success, our products not only stay sold, without service, but one sale nearly always leads to repeat orders.

Yours very truly,

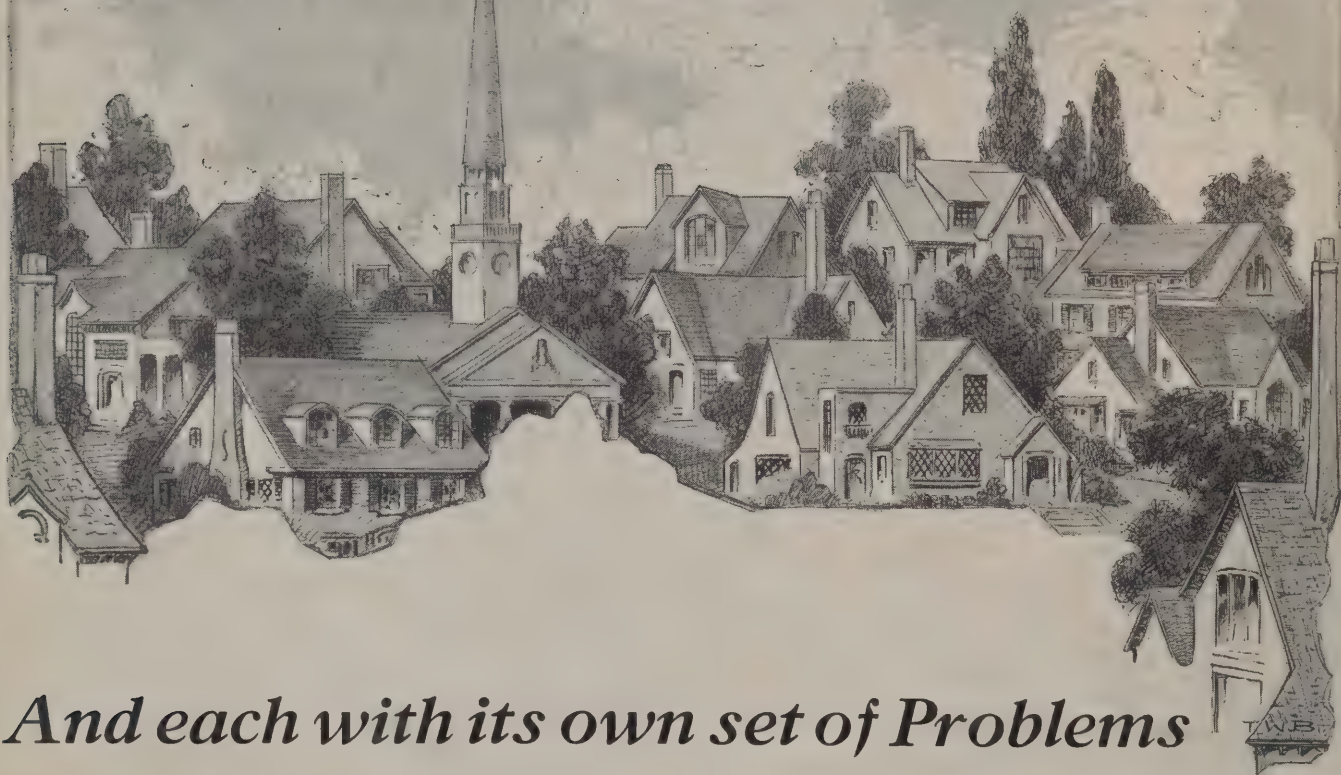
ILLINOIS ENGINEERING COMPANY.

By *Robt. L. Gifford, Pres.*

RLG-S

REPRESENTATIVES IN 40 CITIES OF U.S.A.  
**ILLINOIS ENGINEERING COMPANY**  
ROBT. L. GIFFORD President INCORPORATED 1900  
**CHICAGO**

# Houses ~~~ Houses ~~~ Houses ~~~



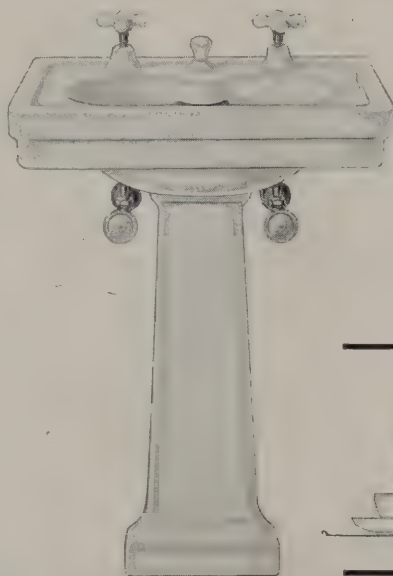
## *And each with its own set of Problems*

When space limitations placed on the size of the bathroom present a problem of arrangement and choice of fixtures, the answer will be found in an Eljer catalog.

Among a number of special designs to fit such a condition is The Franklin Lavatory, No. 197, with a 17" x 22" slab. This beautiful fixture of vitreous china (as fine as that used in French table china) provides the same size bowl usually found with a 24" slab. It not only saves space but pocket-books as well, for it costs no more than

ordinary ware of the same bowl size.

Familiarity with Eljer fixtures in their various special as well as staple designs, will often prove both a time and money-saver. A catalog will be gladly forwarded at once.



Eljer Co., Ford City, Pa.

Plants at Ford City, Pa.  
and Cameron, W. Va.

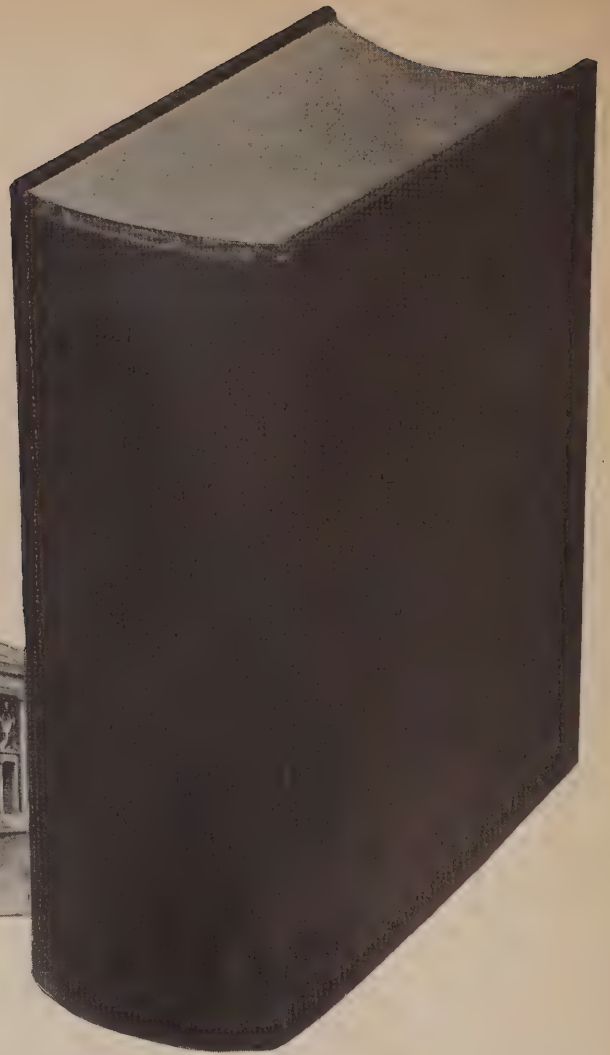


Eljer China is similar in texture to the finest French Table China—but with the added toughness necessary to withstand rough usage. Acid-proof and rust-proof.

# ELJER

VITREOUS CHINA PLUMBING FIXTURES





## It's So Easy to Specify Medusa

**T**URN to Sweet's and use the Medusa Catalogs there. Medusa White Cement, Pages 341 to 349; Medusa Waterproofing, Pages 118 to 121.

You'll find these to be accurate, time saving aids to you or your specifications writer.

Specifying Medusa becomes

an easy task and your work will receive the protection of permanence in its final form.

We will gladly supplement the information in Sweet's with our own catalogs. The Medusa Pool Book and the Medusa Concrete Products Book would prove of interest to you. May we send copies?

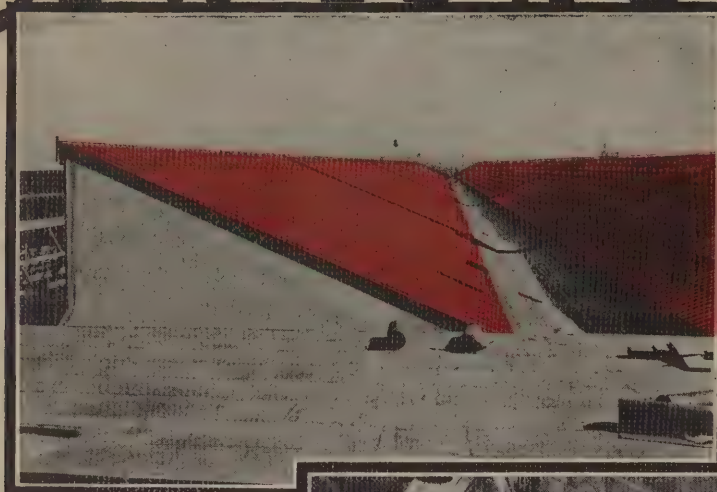
**THE SANDUSKY CEMENT COMPANY**  
The Engineers' Building CLEVELAND, OHIO

Manufacturers of Medusa White Portland Cement, (Plain and Waterproofed); Medusa Waterproofing (Powder or Paste); Medusa Gray Cement (Plain and Waterproofed); and Medusa Cement Paint.



# MEDUSA

# CEMENTILE



At left: Cementile Interlocking and flat tile types of roof construction—the latter used also for the gutters.

Ford Motor Co. assembly plant at Somerville, Mass.  
Albert Kahn, Inc.  
Architects and Engineers.



## "CEMENTILE" Roofs on Ten Different Ford Plants

Certainly this is a record which speaks well for Cementile—as anyone will recognize who is familiar with the rigid standards which the Ford Motor Company insist upon. These installations called for a total of 2,000,000 square feet of this permanent, fire-safe roofing.

Cementile was specified on these ten Ford plants because experience has proven Cementile safe, permanent, and economical—Cementile takes the maintenance out of roofing.

Leading architects know the value of Cementile. Careful buyers like the Ford Motor Company are sold on Cementile for permanent low-cost roofing. You should know the facts about Cementile, too. *Write for the Cementile Catalog—today.*

## American Cement Tile Manufacturing Company

1201 Oliver Building

**PITTSBURGH, PENNA.**

PLANTS: Wampum, Pa. ~ Lincoln, N. J. ~ Birmingham, Ala.  
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"CEMENTILE" comes in three types; Red Interlocking for pitched roofs; Flat and Channel for flat or pitched roofs where it is desired to waterproof with a composition covering.

"CEMENTILE" is laid directly on the roof purlins.











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